

Various State Agencies  
Located throughout Idaho  
\*\*\*\*

Various, ID 83701



## Various State Agencies

THIS NUMBER MUST  
APPEAR  
ON ALL DOCUMENTS

Participating Addendum  
PADD1004 - 01

Participating Addendum  
CHANGE ORDER - 01

**DELIVER TO:**

Various State Agencies  
Located throughout Idaho  
\*\*\*\*

Various, ID 83701

Date: Wed Nov 29, 2006

F.O.B: Destination

Terms:

**VENDOR:**

VARIOUS CONTRACTORS  
Various Addresses  
Boise, ID 83706  
Attn: Contractor Source  
Vendor Nbr: P00000055654  
Emailed To: [999@999.com](mailto:999@999.com)  
Phone: 208 327-7465  
Fax: 208 327-7320  
Account Number: P00000055654

Start of Service Mon Oct 30, 2006  
Date

End of Service Wed Oct 29, 2008  
Date:

RFQ#: [RFQ03882](#)

DOC#: PREQ7417

File(s) Attached:



02702c\_Contract.pdf

Buyer: [State Purchasing CC](#) 208-327-7465

Item No	Description	Quantity UOM	Unit Price	EXTENSION
000	BLANKET PURCHASE AGREEMENT ( line item particulars follow )	1 lot		500000000.00
	Total:			500000000.00
Blanket Comments:	<p>WSCA PUBLIC SAFETY COMMUNICATION EQUIPMENT CONTRACT PADD1004 RENEWAL</p> <p>This contract renewal and the provisions hereof are hereby made part of that certain State of Idaho contract number PADD1004, for WSCA PUBLIC SAFETY COMMUNICATION EQUIPMENT dated FEBRUARY 02, 2004 for ALL ELIGIBLE POLITICAL SUBDIVISIONS OR PUBLIC AGENCIES, between VARIOUS CONTRACTORS as "Contractor" and the State of Idaho as "State." Contractor and State hereby agree as follows:</p> <p>All of the terms and conditions contained in the Contract shall remain in full force and effect, except as expressly modified herein. The effective date of this renewal is OCTOBER 30, 2006.</p> <p>This contract is renewed for TWO (2) YEARS commencing OCTOBER 30, 2006 and expiring OCTOBER 29, 2008. The same terms, conditions and prices prevail for the contract renewal period.</p> <p>The dollar amount listed in the contract renewal pricing is an estimate and cannot be guaranteed. The actual dollar amount of the contract may be more or less depending on the actual orders, requirements, or tasks given to the Contractor by the State or may be dependent upon the specific terms of the Contract.</p> <p>SIGNED AND DATED ACCEPTANCE LETTER FROM VARIOUS CONTRACTORS ON FILE AT THE DIVISION OF PURCHASING</p>			

Item No	Description	Quantity UOM	Unit Price	EXTENSION
001	<b>WSCA Public Safety Communication Equipment (Contract 02702)</b>  <b>( 915-79 ) ( nt )</b>	1 LOT	500000000.00	500000000.00
	Instr: <b>Electronic copies of the WSCA contract may be obtained, free of charge, by requesting a CD from the Idaho Division of Purchasing, Boise, Idaho (208) 327-7465</b>	<div>2</div>		
General Comments:	<p>.....NOTICE OF STATEWIDE CONTRACT (WSCA CONTRACT 02702) AWARD</p> <p>Contract for WSCA Public Safety Communication Equipment for various state of Idaho agencies, institutions, and departments. The Division of Purchasing or the requisitioning agency will issue individual releases (delivery or purchase orders) against this Master Contract on an as needed basis.</p> <p>Contract Title:.....WSCA Public Safety Communication Equipment  Delivery Zone/Area:....Statewide  Contract Usage Type:....Convenience  Public Agency Clause: ..Yes</p> <p>Contract Administration - WSCA:..Keith Armstrong  ---Phone Number:.....360-902-7420  ---Fax Number.....360-586-2426  ---E-Mail:.....karmstr@ga.wa.gov</p> <p>Contract Administration - Gregory Lindstrom, Purchasing Officer  ---Phone Number.....208-332-1609  ---Fax Number.....208-327-7320  ---E-Mail.....Gregory.Lindstrom@adm.idaho.gov</p> <p>Contractor's Primary Contact:  ---MULTIPLE CONTRACTORS. SEE CONTRACT SUMMARY FOR CONTACT INFORMATION.</p> <p>CONTRACTOR: Ship to the FOB DESTINATION point and BILL DIRECTLY to the ORDERING AGENCY. DO NOT MAIL INVOICES TO THE DIVISION OF PURCHASING. Notating the Contract Award Number on any invoices/statement will facilitate the efficient processing of payment.</p> <p>Minimum Order Quantity: None..  Minimum Dollar Amount: None..  Standard Delivery Time: Varies..</p> <p>Order Placement Address:  VARIOUS PLACEMENT ADDRESSES. SEE CONTRACT SUMMARY FOR CONTACT INFORMATION.</p> <p>Payment Address:  VARIOUS PAYMENT ADDRESSES. SEE CONTRACT SUMMARY FOR CONTACT INFORMATION.</p> <p>INVOICES MUST BE SENT TO THE IDAHO ORDERING AGENCY.</p>			
Instructions: Freight / Handling Included in Price				
		By: GREGORY D. LINDSTROM		

# Western States Contracting Alliance

## Current Contract Information

### PHASE I - SOLE SOURCE/INSTALLED BASE AWARD Phase I Awards PHASE II - COMPETITIVELY BID EQUIPMENT

Effective Date: October 27, 2006

<b>Contract number:</b>	<b>02702</b> (replaces 03599, 08497, 02899)	<b>Commodity code:</b>	<b>5820</b>
<b>Contract title:</b>	WSCA Public Safety Communication Equipment		
<b>Purpose:</b>	Update Current Contract Information to reflect a 24-month extension, effective October 27, 2006. <b>Note:</b> The revised Current Contract Information is still being updated and will be posted shortly.		
<b>Original award date:</b>	October 30, 2003		
<b>Current extension period:</b>	October 30, 2006 through: October 29, 2008		
<b>Contract term:</b>	Not to exceed <u>10</u> years		
<b>Contract type:</b>	This contract is designated as <b>convenience</b> use.		
<b>Scope of contract</b>	This contract is awarded to <b>multiple</b> contractor(s).		

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**Notice to Washington State Agencies subject to the policies of the Washington State Information Services Board under Chapter 43.105 RCW, your purchase may require prior approval from the Department of Information Services (DIS) and the Information Services Board (ISB).**

**Primary user agency(ies):** [Western States Contracting Alliance State and local agencies.](#)

**For use by:** **General use:** All State Agencies, Political Subdivisions of: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Kansas, Minnesota, Montana, Oregon, Oklahoma, South Dakota, Utah and Washington, Wisconsin and Qualified Non-profit Corporations, Materials Management Center, Participating Institutions of Higher Education (College and Universities, Community and Technical Colleges). **Various use:** [All governmental agency](#)

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<b>Term worth:</b>	<b>\$500,000,000</b>			
<b>Current participation:</b>	<b>\$0.00 MBE</b>	<b>\$0.00 WBE</b>	<b>\$500,000,000.00</b>	<b>\$0.00 EXEMPT</b>
<b>Current Participation:</b>	<b>MBE 0%</b>	<b>WBE 0%</b>	<b>OTHER 0%</b>	<b>EXEMPT 0%</b>
<b>Recovered material:</b>	Contract vendors are providing sub-contractors who are qualified WBE's. Contact contractor's for returning recoverable materials at the end of the equipment life cycle.			

**This page contains key contract features. Find detailed information on succeeding pages. For more information on this contract, or if you have any questions, please contact your local agency Purchasing Office, or you may contact our office at the numbers listed below.**

Contract Consultant:	Keith Armstrong
Phone Number:	(360) 902-7420
Fax Number:	(360) 586-2426
Email:	<a href="mailto:karmstr@ga.wa.gov">karmstr@ga.wa.gov</a>

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Unit Manager, Dale Colbert

**Visit our Internet site:** <http://www.ga.wa.gov/purchase>

**WESTERN STATES CONTRACTING ALLIANCE**  
**CONTRACT: 02702 PUBLIC SAFETY COMMUNICATIONS EQUIPMENT**  
**AND SERVICE CONTRACT.**

**SCOPE OF THE CONTRACT**

**The purpose** of this convenience, multi-state, contract is for the purchase of Public Safety Communication Equipment, and programs, as they are needed. The WSCA directors may authorize state and local governmental entities throughout the nation (NASPO) the use of this contract subject to approval of the local state purchasing director and local statutory provisions. The selected contractors shall accept purchase orders from and deliver products to approved purchasing entities. Contractors are required to offer warranty and maintenance services on products purchased under these agreements. Only Manufacturers submit proposals for products and/or services that they themselves produce in Phase I and/or Phase II. Phase I and Phase II are as follows:

Phase I is a sole source and/or installed base contract.

Phase II is competitively bid contract.

**“WSCA”** Means the Western States Contracting Alliance, a cooperative group contracting consortium for state government departments, institutions, agencies and political subdivisions (i.e., colleges, school districts, counties, cities, etc.) for the states of Alaska, Arizona, California, Colorado, Hawaii, Idaho, Minnesota, Montana, Nevada, New Mexico, Oregon, South Dakota, Utah, Washington, and Wyoming.

**WSCA Background Information:** WSCA was formed in October 1993. The purpose of WSCA is to establish the means by which participating states may join together in cooperative multi-state contracting, to ensure the commitment of each participating state and to provide regular and ongoing assistance to participating states in researching, developing, and administering procurement and contractual specifications and requirements. WSCA maintains a cooperative relationship with the National Association of State Purchasing Officials (NASPO). The mission of WSCA is to implement multi-state contracts to achieve cost-effective and efficient acquisition of quality products and services and to promote interoperability and sharing amongst the WSCA participants.

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<b>Products/Services available:</b>	Public Safety Communication Equipment
<b>Related product contracts:</b>	Radio, Gateway devices, Towers, Microwave, Waveguides, Antennas, Power Supplies

**NOTES:**

State Agencies: Submit Order directly to Contractor for processing. Political Subdivisions: Submit orders directly to Contractor referencing State of Washington contract number. If you are unsure of your status in the State Purchasing Cooperative call (360) 902-7415.

Only authorized purchasers included in the Western States Contracting Alliance (WSCA) there local governments, poly-sub, and non-profits may use the contract.

Contract Terms: This Document includes by reference all terms and conditions published in the original **RFP and Specification Documents**.

**SPECIAL CONDITIONS:**

Refer to the original RFP, Amendments and Specifications for all terms, conditions and equipment specifications.

**Phase I****Phase I Awards****PHASE 1, WAS NOT COMPETITIVELY BID AND CONTRACTS WERE BASED ON SOLE SOURCE, SPECIAL MARKET CONDITIONS:**

**All purchase entities must check with there laws governing sole source, special market conditions before using the Phase 1 contract. Phase 1 contract was based on special market conditions, an installed base and only vendor able to provide the replacement equipment.**

<b>Equipment Category</b>	<b>Status of Award</b>	<b>Date of Award</b>
Category 1, Radios	Awarded	November 25, 2003
Category 2, Aviation Radios	Awarded	November 25, 2003
Category 3, Dual Receiver Radio	Re-bid 2004	First Qtr 2004
Category 4, Gateway Devices:	Awarded	November 25, 2003
Category 5, Microwave	Awarded	November 25, 2003
Category 6, Towers	Awarded	November 25, 2003
Category 7 Microwave Antennas, Waveguide & Associated Hardware	Awarded	November 25, 2003
Category 8, Test Equipment	Awarded	November 25, 2003

<b>Contractors:</b>	Aeroflex	Page 13
	Alcatel	Page 21
	Ceragon Networks	Page 43
	Daniels Electronics	Page 45
	EF Johnson Company	Page 48
	Eltek	Page 109
	General Dynamics	Page 113
	Harris Corporation	Page 118
	Icom America, Inc.	Page 131
	JPS/Raytheon	Page 134
	Kenwood	Page 139
	M/ACOM	Page 159
	Motorola	Page 181
	Radian Communication Services, Inc	Page 204
	Radio Frequency System	Page 208
	RELM (King)	Page 228
	Sinclair Technologies	Page 231
	SmartLink Radio Networks	Page 235
	Tait North America, Inc.	Page 240
	Valmont	Page 242
	Vertex	Page 246

**Phase II****Phase II Awards**

**PHASE 2, WAS COMPETITIVELY BID AND ALL PROCUREMENT PRACTICES WERE FOLLOWED.**

**PHASE 2 AWARDS:**

<b>Equipment Category</b>	<b>Status of Award</b>	<b>Date of Award or Proposed date of Award</b>
Category 1, Radios	Awarded	October 30, 2003
Category 2, Aviation Radios	Awarded	October 30, 2003
Category 3, Dual Receiver Radio	Re-bid	1 <sup>st</sup> QTR 2004
Category 4, Gateway Devices:	Awarded	October 30, 2003
Category 5, Microwave	Awarded	October 30, 2003
Category 6 Towers	Awarded	October 30, 2003
Radian Communication Services, Inc Valmont		
CATEGORY 7 Waveguides and Antennas	Awarded	October 30, 2003
Category 8, Test Equipment	Awarded	October 30, 2003

<b>Contractors:</b>	Aeroflex	Page 13
	Alcatel	Page 21
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	EF Johnson Company	Page 48
	Harris Corporation	Page 118
	Icom America, Inc.	Page 131
	JPS/Raytheon	Page 134
	Kenwood	Page 139
	M/ACOM	Page 159
	Northern Airborne Technology Ltd	Page 200
	Radian Communication Services, Inc	Page 204
	Radio Frequency System	Page 208
	SmartLink Radio Networks	Page 235
	Valmont	Page 242

**Phase II****Category 1, Radios**

Link to Specifications: <http://www.ga.wa.gov/pca/bids/02702-Phase2-Category1.zip>

**NA - Not awarded and will be added after these items are re-bid.**

<b>Equipment</b>	<b>Link to Contractor</b>
<b>Portable Analog</b>	
High VHF 136-174 Quality Category A	EF Johnson Company
High VHF 136-174 Quality Category B	EF Johnson Company
High VHF 136-174 Quality Category C	M/ACOM
High VHF 136-174 Quality Category D	Kenwood
<b>Portable Analog</b>	
UHF 450-470 Quality Category A	EF Johnson Company
UHF 450-470 Quality Category B	EF Johnson Company
UHF 450-470 Quality Category C	Kenwood
UHF 450-470 Quality Category D	EF
<b>Portable Analog</b>	
UHF 806-870 Quality Category A	EF Johnson Company
UHF 806-870 Quality Category B	EF Johnson Company
UHF 806-870 Quality Category D	EF Johnson Company
UHF 806-870 Quality Category D	EF Johnson Company
<b>Desktop Analog</b>	
High VHF 136-174 Quality Category A	NA
High VHF 136-174 Quality Category B	NA
High VHF 136-174 Quality Category C	NA
High VHF 136-174 Quality Category D	NA
<b>Desktop Analog</b>	
UHF 450-470 Quality Category A	NA
UHF 450-470 Quality Category B	NA
UHF 450-470 Quality Category C	NA
UHF 450-470 Quality Category D	NA
<b>Desktop Analog</b>	
UHF 806-870 Quality Category A	NA
UHF 806-870 Quality Category B	NA
UHF 806-870 Quality Category C	EF Johnson Company
UHF 806-870 Quality Category D	EF Johnson Company
<b>Mobile Analog</b>	
High VHF 136-174 Quality Category A	NA
High VHF 136-174 Quality Category B	EF Johnson Company
High VHF 136-174 Quality Category C	EF Johnson Company
High VHF 136-174 Quality Category D	EF Johnson Company
<b>Mobile Analog UHF 450-470</b>	
UHF 450-470 Quality Category A	NA
UHF 450-470 Quality Category B	NA



**Phase II**

<b>Equipment</b>	<b>Link to Contractor</b>
UHF 450-470 Quality Category C	M/ACOM
UHF 450-470 Quality Category D	NA
<b>Mobile Analog</b>	
UHF 806-870 Quality Category A	M/ACOM
UHF 806-870 Quality Category B	NA
UHF 806-870 Quality Category C	EF Johnson Company
UHF 806-870 Quality Category D	EF Johnson Company
<b>Remote Base/Repeater Station Analog</b>	
High VHF 136-174 Quality Category A	NA
High VHF 136-174 Quality Category B	NA
High VHF 136-174 Quality Category C	NA
High VHF 136-174 Quality Category D	M/ACOM
<b>Remote Base/Repeater Station Analog</b>	
UHF 450-470 Quality Category A	NA
UHF 450-470 Quality Category B	NA
UHF 450-470 Quality Category C	NA
UHF 450-470 Quality Category D	M/ACOM
<b>Remote Base/Repeater Station Analog</b>	
UHF 806-870 Quality Category A	NA
UHF 806-870 Quality Category B	NA
UHF 806-870 Quality Category C	NA
UHF 806-870 Quality Category D	NA
<b>Portable Digital</b>	
High VHF 136-174 Quality Category A	EF Johnson Company
High VHF 136-174 Quality Category B	EF Johnson Company
High VHF 136-174 Quality Category C	EF Johnson Company
High VHF 136-174 Quality Category D	EF Johnson Company
<b>Portable Digital</b>	
UHF 450-470 Quality Category A	EF Johnson Company
UHF 450-470 Quality Category B	EF Johnson Company
UHF 450-470 Quality Category C	EF Johnson Company
UHF 450-470 Quality Category D	EF Johnson Company
<b>Portable Digital</b>	
UHF 806-870 Quality Category A	EF Johnson Company
UHF 806-870 Quality Category B	EF Johnson Company
UHF 806-870 Quality Category C	EF Johnson Company
UHF 806-870 Quality Category D	EF Johnson Company
<b>Desktop Digital</b>	
High VHF 136-174 Quality Category A	NA
High VHF 136-174 Quality Category B	NA
High VHF 136-174 Quality Category C	NA
High VHF 136-174 Quality Category D	EF Johnson Company
<b>Desktop Digital</b>	
UHF 450-470 Quality Category A	NA
UHF 450-470 Quality Category B	NA

**Phase II**

<b>Equipment</b>	<b>Link to Contractor</b>
UHF 450-470 Quality Category C	NA
UHF 450-470 Quality Category D	NA
<b>Desktop Digital</b>	
UHF 806-870 Quality Category A	NA
UHF 806-870 Quality Category B	NA
UHF 806-870 Quality Category C	EF Johnson Company
UHF 806-870 Quality Category D	EF Johnson Company
<b>Mobile Digital</b>	
High VHF 136-174 Quality Category A	NA
High VHF 136-174 Quality Category B	M/ACOM
High VHF 136-174 Quality Category C	EF Johnson Company
High VHF 136-174 Quality Category D	EF Johnson Company
<b>Mobile Digital</b>	
UHF 450-470 Quality Category A	NA
UHF 450-470 Quality Category B	M/ACOM
UHF 450-470 Quality Category C	NA
UHF 450-470 Quality Category D	NA
<b>Mobile Digital</b>	
UHF 806-870 Quality Category A	NA
UHF 806-870 Quality Category B	NA
UHF 806-870 Quality Category C	EF Johnson Company
UHF 806-870 Quality Category D	EF Johnson Company
<b>Remote Bass/Repeater Station Digital</b>	
High VHF 136-174 Quality Category A	NA
High VHF 136-174 Quality Category B	NA
High VHF 136-174 Quality Category C	NA
High VHF 136-174 Quality Category D	NA
<b>Remote Bass/Repeater Station Digital</b>	
UHF 450-470 Quality Category A	NA
UHF 450-470 Quality Category B	NA
UHF 450-470 Quality Category C	NA
UHF 450-470 Quality Category D	NA
<b>Remote Bass/Repeater Station Digital</b>	
UHF 806-870 Quality Category A	NA
UHF 806-870 Quality Category B	NA
UHF 806-870 Quality Category C	NA
UHF 806-870 Quality Category D	NA
<b>Mobile Trunked Digital</b>	
High VHF 136-174 Quality Category A	NA
High VHF 136-174 Quality Category B	NA
High VHF 136-174 Quality Category C	EF Johnson Company
High VHF 136-174 Quality Category D	EF Johnson Company
<b>Mobile Trunked Digital</b>	
UHF 450-470 Quality Category A	NA
UHF 450-470 Quality Category B	NA

**Phase II**

<b>Equipment</b>	<b>Link to Contractor</b>
UHF 450-470 Quality Category C	NA
UHF 450-470 Quality Category D	NA
<b>Mobile Trunked Digital</b>	
UHF 806-870 Quality Category A	NA
UHF 806-870 Quality Category B	NA
UHF 806-870 Quality Category C	EF Johnson Company
UHF 806-870 Quality Category D	EF Johnson Company
<b>Portable Trunked Digital</b>	
High VHF 136-174 Quality Category A	NA
High VHF 136-174 Quality Category B	EF Johnson Company
High VHF 136-174 Quality Category C	EF Johnson Company
High VHF 136-174 Quality Category D	EF Johnson Company
<b>Portable Trunked Digital</b>	
UHF 450-470 Quality Category A	EF Johnson Company
UHF 450-470 Quality Category B	EF Johnson Company
UHF 450-470 Quality Category C	EF Johnson Company
UHF 450-470 Quality Category D	EF Johnson Company
<b>Portable Trunked Digital</b>	
UHF 806-870 Quality Category A	NA
UHF 806-870 Quality Category B	EF Johnson Company
UHF 806-870 Quality Category C	EF Johnson Company
UHF 806-870 Quality Category D	EF Johnson Company

**Phase II**

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**Category 2, Aviation Radios**

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**Link to Specifications:** <http://www.ga.wa.gov/pca/bids/02702-Phase2-Category2.doc>

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<b>Equipment</b>	<b>Link to Contractor</b>
FM Band Aircraft Radio	Northern Airborne Technology Ltd
<b>AM Band Aircraft Radio</b>	Icom America, Inc.

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**Category 3, Dual Receiver, In-Band Repeater**

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**Link to Specifications:** <http://www.ga.wa.gov/pca/bids/02702-Phase2-Category3.doc>

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<b>Equipment</b>	<b>Link to Contractor</b>

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**Category 4, Gateway Devices:**

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**Link to Specifications:** <http://www.ga.wa.gov/pca/bids/02702-Phase2-Category4.doc>

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<b>Equipment</b>	<b>Link to Contractor</b>
Category 4, Specifications for ICRI audio switch	Communications-Applied Technology
Category 4, Specifications for ACU1000	JPS/Raytheon
Category 4, IP Base Solution M/A COM	M/ACOM
Category 4 IP Base Solution SmartLink	SmartLink Radio Networks

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**Phase II****Category 5, Microwave****Link to Specifications:** <http://www.ga.wa.gov/pca/bids/02702-Phase2-Category5.doc>

<b>Equipment</b>	<b>Capacity</b>	<b>Link to Contractor</b>
Hot Standby - Terminal – 6 GHz	8T, 16T	Alcatel
Hot Standby - Terminal – 6 GHz	28T, OC3	Harris Corporation
Non-Hot Standby – Terminal – 6 GHz	8T, 16T, OC3	Alcatel
Non-Hot Standby - Terminal – 6 GHz	28T, OC3	Harris Corporation
Hot Standby – Terminal – 11 GHz	12T, 16T	Alcatel
Hot Standby - Terminal – 11 GHz	28T, OC3	Harris Corporation
Non-Hot Standby – Terminal – 11 GHz	12T	Alcatel
Non-Hot Standby – Terminal – 11 GHz	16T, 28T, OC3	Harris Corporation
Hot Standby - Terminal – 18 GHz	16T, 28T	Alcatel
Hot Standby - Terminal – 18 GHz	OC3	Harris Corporation
Non-Hot Standby – Terminal – 18 GHz	16T	Alcatel
Non-Hot Standby – Terminal – 18 GHz	28T, OC3	Harris Corporation
Hot Standby – Terminal – 23 GHz	16T, 28T, OC3	Alcatel
Non-Hot Standby - Terminal – 23 GHz	16T	Alcatel
Non-Hot Standby - Terminal – 23 GHz	28T, OC3	Harris Corporation
Hot Standby – Repeater – 6 GHz	8T, 16T	Alcatel
Phase II	28T, OC3	Harris Corporation
Harris Corporation		

**Hot Standby – Repeater – 6 GHz**

Non-Hot Standby – Repeater – 6 GHz	8T, 16T, OC3	Alcatel
Non-Hot Standby – Repeater – 6 GHz	28T	Harris Corporation
Hot Standby – Repeater – 11 GHz	16T, 28T, OC3	Harris Corporation
Non-Hot Standby – Repeater – 11 GHz	16T, 28T, OC3	Harris Corporation
Hot Standby – Repeater – 18 GHz	16T, 28T	Alcatel
Hot Standby – Repeater – 18 GHz	OC3	Harris Corporation
Non-Hot Standby – Repeater – 18 GHz	16T	Alcatel
Non-Hot Standby – Repeater – 18 GHz	28T, OC3	Harris Corporation
Hot Standby – Repeater – 23 GHz	16T, 28T, OC3	Alcatel
Non-Hot Standby - Repeater – 23 GHz	16T	Alcatel
Non-Hot Standby - Repeater – 23 GHz	28T, OC3	Harris Corporation

**Phase II**

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Category 6 Communication Towers

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**Link to Specifications:** <http://www.ga.wa.gov/pca/bids/02702-Phase2-Category6.doc>

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<b>Equipment</b>	<b>Link to Contractor</b>
3-LEGGED TRIANGULAR SELF SUPPORT TOWERS	Radian Communication Services, Inc
GUYED TOWERS	Radian Communication Services, Inc

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**Category 7 Waveguides and Antennas**

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**Link to Specifications:** <http://www.ga.wa.gov/pca/bids/02702-Phase2-Category7.doc>

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<b>Equipment</b>	<b>Link to Contractor</b>
<b>Category 7 Waveguides and Antennas</b>	Radio Frequency System

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Category 8, Test Equipment

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**Link to Specifications:** <http://www.ga.wa.gov/pca/bids/02702-Phase2-Category8.doc>

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<b>Equipment</b>	<b>Link to Contractor</b>
2975 Digital PROJECT 25 2	Aeroflex
120C TEST SET	Aeroflex

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**Aeroflex****CONTRACTOR INFORMATION****Contractor:** **Aeroflex Wichita, Inc.****Page number****Contact:** John Rankin  
**Phone:** 316-529-5204**Alternate Contact:** Chad Knudson  
800-835-2352 Ext 579  
316 529-5579 Direct  
316-524-2623**Fax:** 316-522-3676  
**Email:** [John.rankin@aeroflex.com](mailto:John.rankin@aeroflex.com)  
**Internet address:** [www.aeroflex.com](http://www.aeroflex.com)[Chad.knudson@aeroflex.com](mailto:Chad.knudson@aeroflex.com)**Web catalog address:****Federal ID No.:** 48-0777904**Supplier No.:** 945**Total Contract worth:** \$500,000,000.00**Payment address:** Aeroflex Wichita, Inc.  
10200 West York St  
Wichita, KS 67215**Order placement address:** Aeroflex Wichita, Inc.  
10200 West York St  
Wichita, KS 67215**Customer Service:** Rhonda Bundy  
**Telephone:** 800-835-2352 ext 407  
**Fax:** 316-524-2623**Ordering procedures:****Credit card acceptance:** Visa, MasterCard, American Express**Minimum orders:****Delivery time:** 6 to 8 weeks After Receipt of Order (ARO)**Payment terms:** 0% 30 days**Shipping destination:** Freight on Board (FOB) destination**Freight:** Prepaid and included**Palletization:** N/A**Category****CATEGORY 8, TEST EQUIPMENT****Equipment Line items****Link to bid Specifications** <http://www.ga.wa.gov/pca/bids/02702-Phase2-Category8.doc>**Awarded Phase(s)** Phase I & II

**Volume Discount Program - Phase 1 and Phase 2 all categories**

The volume discount will be cumulative and over the term of the contract.

(Initial Term of Three [3] Years)

<b>Additional Discount off Net Contract Unit Price</b>	<b>Cumulative Total Sales from:</b>	<b>Cumulative Total Sales to:</b>
1 %	\$5,000,000	\$9,999,999
1 %	\$10,000,000	\$14,999,999
1 %	\$15,000,000	\$19,999,999
0 %	\$20,000,000	\$29,999,999
0 %	\$30,000,000	\$39,999,999
0 %	\$40,000,000	\$49,999,999
0 %	\$50,000,000	\$59,999,999
0 %	\$60,000,000	\$69,999,999
0 %	\$70,000,000	\$79,999,999
0 %	\$80,000,000	\$89,999,999
0 %	\$90,000,000	\$99,999,999
0 %	\$100,000,000	\$100,000,000+



**Aeroflex – Phase II****Category 8, Test Equipment  
Price Sheets****2975 Digital PROJECT 25 2**

<b>Req. Item</b>	<b>Part #</b>	<b>Description</b>	<b>Manufacturer List Price</b>
<b>1 or 2 Units for a Single Order: Discount = 3% off Manufacturer List Price</b>			
<b>3 or more Units for a Single Order: Discount 5% off Manufacturer List Price</b>			
	2975	Project 25 Radio Test Set	21,495
	2975OPT3	SmartNet/SmartZone Testing Option	4,000
	2975OPT4	P25 Trunking Radio Test Option	2,400
	2975OPT6	Control Channel Logger	3,000
	2975OPT8	SmartNet/SmartZone 900MHz (Requires Option 3)	900
	2975OPT9	Autotest 1	4,000
	2975OPT10	AES	2,000
	2975OPT11	LSM/P25 Phase 2	2,000
	2975OPT12	KVL Keyloader Option	2,000
	2975OPT13	LSM Advanced / P25 - 2 Advanced (Requires 2975OPT11)	6,800
	2975OPT14	P25 Trunking VHF/UHF/ 700MHz	2,400
	2975OPT15	Audio Analyzer Option	2,000
	2975OPT16	Analog Simulcast Align Option (Requires 2975OPT15)	800
	2975OPT17	Rx BER Option	900
	2975OPT18	LTR Trunking Option	2,000
	2975OPT19	Passport © Option (Requires Version 1.9.x or later Firmware)	2,000
	2975OPT20	KVL ASN Mode Option (Requires 2975OPT12)	500
	2975OPT21	P25 Secondary Ctrl Ch Broadcast Msg Option (Requires 2975OPT4 or Opt 14)	2,000

**Aeroflex – Phase II**

Req. Item	Part #	Description	Manufacturer List Price
<b>1 or 2 Units for a Single Order: Discount = 3% off Manufacturer List Price</b>			
<b>3 or more Units for a Single Order: Discount 5% off Manufacturer List Price</b>			
	2975OPT2 2	P25 Explicit Mode Operation (Requires 2975OPT14)	2,000
	2975OPT2 3	P25 Explicit Unit to Unit and PSTN Emulation Option (Requires 2975OPT22)	2,000
	2975OPT2 4	P25 Explicit Adjacent Status Broadcast Channel Message Option (Requires 2975OPT22)	2,000
		<b>Extended Standard Warranties for 2975</b>	
	W2975/20 3	Extended Standard Warranty 36 Months	444
	W2975/20 5	Extended Standard Warranty 60 months	836
		<b>Extended Standard Warranties with Calibration for 2975</b>	
	W2975/20 3C	Extended Standard Warranty 36 Months with scheduled calibration	1,447
	W2975/20 5C	Extended Standard Warranty 60 Months with scheduled calibration	2,723
		<b>Accessories for 2975</b>	
	AC25007	Microphone /Audio Adapter	300
	AC25009	Paper Manual, E-Manual and Calibration Software	500
	AC25009C D	E-Manual and Calibration Software	350
	AC25011	Case, Tranist W/Wheels	795
	AC25012	Case, Soft Padded Carrying	159
	AC25013	Kit, 10/20 dB Pads, TNC	117
	AC25014	Scope Probe Kit	85
	AC25023	Front/Rear Cover	99
	AC25027	TNC To BNC Adapter	25
	AC25029	Accessory Pouch	40
	AC25036	DC to AC Converter, 12VDC to 110-120VAC	695
	AC25042	HF Antenna	49

**Aeroflex – Phase II**

<b>Req. Item</b>	<b>Part #</b>	<b>Description</b>	<b>Manufact urer List Price</b>
<b>1 or 2 Units for a Single Order: Discount = 3% off Manufacturer List Price</b>			
<b>3 or more Units for a Single Order: Discount 5% off Manufacturer List Price</b>			
	AC25043	UHF Antenna	49
	AC25044	800MHz Antenna	49
	AC25045	VHF Antenna	49
	AC25100	FAA Kit (Includes AC25007, AC25012, AC25023, AC25027, AC25029)	648
	AC4105	Return Loss Bridge (1.3 GHz)	1,219
	CALFB297 5	Calibration Certificate	495

**Aeroflex – Phase II****120C TEST SET**

Req. Item	Part #	Description	Manufacturer List Price
<b>1 or 2 Units for a Single Order: Discount = 3% off Manufacturer List Price</b>			
<b>3 or more Units for a Single Order: Discount 5% off Manufacturer List Price</b>			
		<b><u>2945B SERIES COMMUNICATIONS SERVICE MONITOR</u></b>	
	2945B	Communication Service Monitor, STD, English	17,200
	CALFB2945	Calibration Certificate - 2945B & 2948B	541
	Opt 1	600 Ohm Matching Unit	963
	Opt 2 *	Analog Systems Card	1,928
	Opt 3	High Stability OCXO (This Item is Fitted as Standard on 2948B)	963
	Opt 4	Centronics/Relay Drive (Cannot Be Fitted With Option 5)	602
	Opt 5	GPIB Interface (Cannot Be Fitted With Option 4)	469
	Opt 6	Memory Card Drive	469
	Opt 8	SSB Demodulator	1,443
	Opt 9	Occupied Bandwidth Measurement	963
	Opt 10	NMT Software For 2945B (Requires Option 2 To Be Fitted)	963
	Opt 11	AMPS Software For 2945B (Requires Option 2 To Be Fitted)	963
	Opt 12	TACS Software For 2945B (Requires Option 2 To Be Fitted)	963
	Opt 13	MPT 1327 Software For 2945B (Requires Option 2 To Be Fitted)	963
	Opt 14	PMRTEST Software For 2945B (Requires Option 2 To Be Fitted)	963
	Opt 15	EDACS Radio Software For 2945B (Requires Opt 2 To Be Fitted)	963
	Opt 16	EDACS Repeater Software For 2945B (Req. Opt 2 To Be Fitted)	963
	Opt 18	LTR For 2945B (Requires Option 2 To Be Fitted) (Availability TBA)	1,000
	Opt 21 *	Channel Demodulation Filter For 2945B	1,443

**Aeroflex – Phase II**

Req. Item	Part #	Description	Manufacturer List Price
<b>1 or 2 Units for a Single Order: Discount = 3% off Manufacturer List Price</b>			
<b>3 or more Units for a Single Order: Discount 5% off Manufacturer List Price</b>			
	Opt 22	POCSAG Software For 2945B	1,191
	Opt 23	CCITT Filter (Cannot Be Fitted With Option 24)	472
	Opt 24	CMESS Filter (Cannot Be Fitted With Option 23)	472
	Opt 26	Tone Remote	750
	Opt 29	Additional Notch Board	400
	Opt 30	Bail Arm Handle & Front Stowage Cover For 2945B	602
	Opt 31	IF Output Option	750
	Opt 32 *	Internal Battery Pack (2945B Only)	250
		* Only two of Options 2, 21 & 32 can be fitted to a 2945B at the same time.	
		<b>Extended Standard Warranties for 294X Series</b>	
	W2945B/203	Extended Standard Warranty 36 Months	418
	W2945B/205	Extended Standard Warranty 60 months	787
	W2948B/203	Extended Standard Warranty 36 Months	444
	W2948B/205	Extended Standard Warranty 60 months	836
		<b>Extended Standard Warranties with Calibration for 294X Series</b>	
	W2945B/203C	Extended Standard Warranty 36 Months with scheduled calibration	1,113
	W2945B/205C	Extended Standard Warranty 60 Months with scheduled calibration	3,116
	W2948B/203C	Extended Standard Warranty 36 Months with scheduled calibration	1,313
	W2948B/205C	Extended Standard Warranty 60 Months with scheduled calibration	2,473
		<b>Accessories for 2945B Series</b>	
	44991/145	Microphone For 2945B	219
	46662/571	Ever-Ready Padded Case For 2945B	560

**Aeroflex – Phase II**

Req. Item	Part #	Description	Manufacturer List Price
<b>1 or 2 Units for a Single Order: Discount = 3% off Manufacturer List Price</b>			
<b>3 or more Units for a Single Order: Discount 5% off Manufacturer List Price</b>			
	46662/616	Ever-Ready Padded Case For 2945B Fitted With Option 30	889
	46880/114	Service Manual 2945B	400
	46880/115	Service Manual 2948B	400
	46884/648	Serial Printer Interface Cable 1.5M	159
	46884/649	Serial Port To PC Cable 25Way 1.5M	169
	46884/650	Serial Port To PC Cable 9Way 1.5M	181
	46884/728	Rack Mounting Kit For 2945	210
	54112/163	Transit Case (Hard) For 2945	1,545
	54421/001	BNC Telescopic Antenna For 2945, 2955, 2965	89
	54421/002	Directional Power Head (HF) 1 MHz To 50 MHz For 2945, 2955B, 2965	4,366
	54421/003	Directional Power Head (VHF/UHF) 25 MHz To 1 GHz, 2945, 2955B, 2965	6,305
	54431/023	Attenuator, 20dB AF For 2945, 2965	186
	59000/375	Memory Card 2M For 2945B & 2965A Series	496
	59000/189	Memory Card 128K For 2945, 2965	405
	59999/170	RF Bridge	1,440

**Alcatel****CONTRACTOR INFORMATION**

<b>Contractor:</b>	<b>Alcatel</b>		
<b>Page number</b>	<a href="http://www.ga.wa.gov/pca/bids/02702-Phase2-Category5.doc">http://www.ga.wa.gov/pca/bids/02702-Phase2-Category5.doc</a>		
<b>Contact:</b>	Merle Watt	<b>Alternate Contact:</b>	Glenn Estes
<b>Phone:</b>	307-775-9806		972-477-5009
<b>Fax:</b>	972-477-1408		972-477-8288
<b>Email:</b>			<a href="mailto:Glenn.i.estes@alcatel.com">Glenn.i.estes@alcatel.com</a>
<b>Internet address:</b>	<a href="http://www.alcatel.com/">http://www.alcatel.com/</a>		
<b>Product Catalog Radio:</b>	<a href="http://www.ga.wa.gov/pca/contract/02702-Alcatel-Microwave-Radio-100904.pdf">http://www.ga.wa.gov/pca/contract/02702-Alcatel-Microwave-Radio-100904.pdf</a>		
<b>Product Catalog Network:</b>	<a href="http://www.ga.wa.gov/pca/contract/02702-Alcatel-Microwave-Network-102804.xls">http://www.ga.wa.gov/pca/contract/02702-Alcatel-Microwave-Network-102804.xls</a>		
<b>Federal ID No.:</b>	75-2016914		
<b>Supplier No.:</b>	11639		
<b>Total Contract worth:</b>	\$500,000,000.00		
<b>Payment address:</b>	Alcatel USA CRCL1 PB7 Beth Rager 3400 W. Plano Pkwy Plano, TX 75075	<b>Order placement address:</b>	Alcatel USA COO1 PB7 Vicki Wright 3400 W. Plano Pkwy Plano, TX 75075
<b>Customer Service:</b>	Vickie Wright		
<b>Telephone:</b>	972-477-8094		
<b>Fax:</b>	972-519-5080		
<b>Ordering procedures:</b>	Contact Local Sales Rep		
<b>Credit card acceptance:</b>	None		
<b>Minimum orders:</b>	None		
<b>Delivery time:</b>	90 days After Receipt of Order (ARO) All Specialized Configurations orders shall not exceed 120 days.		
<b>Payment terms:</b>	0% 30 days		
<b>Shipping destination:</b>	Freight on Board (FOB) destination		
<b>Freight:</b>	Prepaid and included		
<b>Palletization:</b>	N/A		
<b>Category</b>	Category 5, Microwave		
<b>Equipment Line items</b>			
<b>Link to bid Specifications</b>	<a href="http://www.ga.wa.gov/pca/bids/02702-Phase2-Category5.doc">http://www.ga.wa.gov/pca/bids/02702-Phase2-Category5.doc</a>		
<b>Awarded Phase(s)</b>	Phase I & II		

## National Territory Sales

Neal Salzman - Director of Sales 312-543-0559

**US Cellular SE: Kris Jarrett 214-912-3016**

**Rob Klouda Noth East 203-483-0782**  
***SE: Walt Mitchell 856-464-6787***

**Todd Nate - Midwest 303-506-3764**  
**SE: Kris Jarrett 214-912-3016**

**Scott Mehal - Northwest**  
206-465-7453t  
SE: Stan Fey  
**925-895-9424**

**Tom Hamilton - Southwest**  
**949-374-1238**  
***SE: Mike Meierle***  
**949-932-8031**

**Jay Sungu -  
Utilities/West  
559-360-7971 SE: Mike  
Mejerle 949-932-8031**

**Roxy Dittlof - S**  
**Centra**  
**214-738-6296l**  
***SE: Kamal Ballout***  
**214-675-3396**

**Merle Watt - Rocky Mt**  
**307-421-7077**  
**SE: Stan Fey**  
**775-358-2108**

**Bill Rooker Mid Atlantic 301-802-2111**  
***SE: Craig Debbo 770-992-3221***

**Al Tilley - Southeast &  
M/Acom  
214-402-5871  
SE: *Harold Shiroma*  
214-850-3569**

### Additional Assignments:

**Kamal Ballout:** IP/ATM SME  
Bloomberg, ConED, Major IP  
customers

**Kris Jarrett:** SNET/TDM SME  
US Cellular, Major SNET  
customers

**Harold Shiroma:** Microwave SME  
Major Microwave customers



**Alcatel****Phase 1 Product DISCOUNTS**

MDR-8000 DIGITAL RADIO / ALL OPTIONS	25% DISCOUNT
MDR-8706s 6GHz – SONET (OC-3)	50% DISCOUNT
MDR-8706s COMMPACK 6GHz – SONET (OC-3)	45% DISCOUNT
MDR-8711s 11GHz – SONET (OC-3)	50% DISCOUNT
MDR-8711s 11GHz COMMPACK SONET (OC-3)	45% DISCOUNT
MDR-8605u-5.8GHz NORTH AMERICAN (DS3) SIGNAL INTERFACE	45% DISCOUNT
COMMPACK (DS3) SIGNAL INTERFACE	43% DISCOUNT
MDR-8606 – 6GHz NORTH AMERICAN (DS3) SIGNAL INTERFACE	50% DISCOUNT
COMMPACK (DS3) SIGNAL INTERFACE	47% DISCOUNT
MDR-8611-11GHz NORTH AMERICAN (DS3) SIGNAL INTERFACE	50% DISCOUNT
COMMPACK (DS3) SIGNAL INTERFACE	47% DISCOUNT
MDR-8505u-5.8GHz -UNLICENSED – NORTH AMERICAN 2 DS-1 RADIO	32% DISCOUNT
COMMPACK 2 DS-1 RADIO	18% DISCOUNT
4 DS-1 RADIO	38% DISCOUNT
COMMPACK 4 DS-1 RADIO	30% DISCOUNT
8 DS-1 RADIO	49% DISCOUNT
COMMPACK 8 DS-1 RADIO	44% DISCOUNT
16 DS-1 RADIO	54% DISCOUNT
COMMPACK 16 DS-1 RADIO	50% DISCOUNT
MDR-8X06-6GHz - NORTH AMERICAN 2 DS-1 RADIO	37% DISCOUNT
COMMPACK 2 DS-1 RADIO	29% DISCOUNT
4 DS-1 RADIO	43% DISCOUNT
COMMPACK 4 DS-1 RADIO	37% DISCOUNT
8 DS-1 RADIO	52% DISCOUNT
COMMPACK 8 DS-1 RADIO	48% DISCOUNT
12 DS-1 RADIO	55% DISCOUNT
COMMPACK 12 DS-1 RADIO	51% DISCOUNT
16 DS-1 RADIO	56% DISCOUNT
COMMPACK 16 DS-1 RADIO	52% DISCOUNT
MDR-8x10 10/11GHz - NORTH AMERICAN	

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2 DS-1 RADIO	37% DISCOUNT
COMMPACK 2 DS-1 RADIO	29% DISCOUNT
4 DS-1 RADIO	45% DISCOUNT
COMMPACK 4 DS-1 RADIO	37% DISCOUNT
8 DS-1 RADIO	52% DISCOUNT
COMMPACK 8 DS-1 RADIO	48% DISCOUNT
12 DS-1 RADIO	55% DISCOUNT
COMMPACK 12 DS-1 RADIO	51% DISCOUNT
16 DS-1 RADIO	56% DISCOUNT
COMMPACK 16 DS-1 RADIO	52% DISCOUNT
RACK OPTIONS	25% DISCOUNT
RADIO NETWORK MANAGEMENT	25% DISCOUNT

**Phase II Category 5, Microwave  
Alcatel**

<b>Manufacturer</b>	<b>Freq. Band</b>	<b>Capacity in T1's</b>	<b>Part number</b>	<b>Total Price</b>
<b>Hot Standby - Terminal – 6 GHz</b>				
Alcatel	6 Ghz	8T	MDR-8706-8-29-HS	\$21,266
Alcatel	6 Ghz	16T	MDR-8706-16-29-HS	\$22,709
<b>Non-Hot Standby – Terminal – 6 GHz</b>				
Alcatel	6 Ghz	8T	MDR-8706-8-29	\$12,410
Alcatel	6 Ghz	12T	MDR-8706-12-29-NS	\$12,570
Alcatel	6 Ghz	16T	MDR-8706-16-29-NS	\$13,007
<b>Hot Standby – Terminal – 11 GHz</b>				
Alcatel	11 GHz	12T	MDR-8710-12-27-HS	\$24,765
Alcatel	11 GHz	16T	MDR-8710-16-27-HS	\$25,699
<b>Non-Hot Standby – Terminal – 11 GHz</b>				
Alcatel	11 GHz	12T	MDR-8710-12-27-NS	\$14,282
<b>Hot Standby - Terminal – 18 GHz</b>				
Alcatel	18 GHz	16T	9418-AWY-16-HS	\$11,406
Alcatel	18 GHz	28T	9418-AWY-28-HS	\$14,233
<b>Non-Hot Standby – Terminal – 18 GHz</b>				
Alcatel	18 GHz	16T	9418-AWY-16-NS	\$6,996
<b>Hot Standby – Terminal – 23 GHz</b>				
Alcatel	23 GHz	16T	9423-AWY-16-HS (with 1 ft. antenna)	\$12,006
Alcatel	23 GHz	28T	9423-AWY-28-HS (with 1 ft. antenna)	\$14,833
Alcatel	23 GHz	SONET-OC3	MDR-9X23S-HS (no DS1 access)	\$29,262
<b>Non-Hot Standby - Terminal – 23 GHz</b>				
Alcatel	23 GHz	16T	9423-AWY-16-NS (with 1 ft. antenna)	\$7,596
<b>Hot Standby – Repeater – 6 GHz</b>				
Alcatel	6 GHz	8T	MDR-8706-8-29-HS	\$41,970
Alcatel	6 GHz	16T	MDR-8706-16-29-HS	\$44,855
<b>Non-Hot Standby – Repeater – 6 GHz</b>				
Alcatel	6 GHz	8T	MDR-8706-8-29-NS	\$24,258
Alcatel	6 GHz	16T	MDR-8606-16-29-NS	\$25,451
Alcatel	6 GHz	SONET-OC3	MDR-8706s-155-29-NS	\$31,911
<b>Hot Standby – Repeater – 18 GHz</b>				
Alcatel	18 GHz	16T	9418-AWY-16-HS	\$21,726
Alcatel	18 GHz	28T	9418-AWY-28-HS	\$25,664
<b>Non-Hot Standby – Repeater – 18 GHz</b>				
Alcatel	18 GHz	16T	9418-AWY-16-NS	\$12,906
<b>Hot Standby – Repeater – 23 GHz</b>				
Alcatel	23 GHz	16T	9418-AWY-16-NS	\$22,926
Alcatel	23 GHz	28T	9423-AWY-28-HS (with 1 ft. antenna)	\$26,864
Alcatel		SONET-OC3	MDR-9X23S-HS (No DS1 access)	\$57,438
<b>Non-Hot Standby - Repeater – 23 GHz</b>				

Manufacturer	Freq. Band	Capacity in T1's	Part number	Total Price
Alcatel	23 GHz	16T	9423-AWY-16-NS (with 1 ft. antenna)	\$14,106

## **WSP System Rack Configuration & Management**

Each rack pricing shall contain and/or include:

- 3 ea. WSCA compliant 6 GHz Sonet-OC3, space diversity capable microwave terminal.
- 1 ea. Multi-Service Platform (ATM)Router with 2ea 1-Port OC3, 1ea 3-port DS3, 1ea 4-Port Ethernet and 1ea 8-Port T1 Cards as a standard configuration.
- 2 ea. T1/E1 Channel Bank Multiplexer with 2 FXO, 2 FXS and 12 4-wire E&M Channel Cards as a standard configuration.
- 1ea 1RU Fuse Panel
- 1ea Rack Isolation and Bracing Kit (per R56 Standard)
- Option to add DS3 WSCA compliant Microwave radio

Each rack will need to reserve room for:

- VF Jackfield (2RU)
- T1 / Ethernet RJ045 Jackfield (1RU)
- Wayside T1 Router (1RU)
- Wayside Ethernet 16 port switch ( 1 RU)

### **Network Management:**

- **All OC3 & DS3 Radios, Multi-Service Platform (ATM) Routers and T1/E1 Channel Bank Multiplexers must be managed by a single Network Management System.**

Req. Item	Description	*Qty	Unit	Unit Price	Total Price
1.	Complete Microwave Rack Description *Qty Unit Unit Price Total Price • 3 each 6 GHz OC-3, space diversity radios with +29 dBm power output, 7' Seismic rack, 19" wide, with PDU, and grounding kit.	1	EA	\$60,361	\$60,361
	• 1 ea. 7270 Multi-Service Platform (ATM)Router with 2ea 1-Port OC3, 3ea 1-port DS3, 1ea 4-Port Ethernet and 1ea 8-Port T1 Cards as a standard configuration. <b>Please see Attachment C for 7270 configuration details</b>	1	EA	\$43,455	\$43,455
	• 2 ea. 3630 T1/E1 Channel Bank Multiplexer with 2 FXO, 2 FXS and 12 4-wire E&M Channel ports as a standard configuration. Please see Attachment D for configuration details.	1	EA	\$8,540	\$8,540
	• Not included in Microwave rack, but included in solution is the 5620 Network Management. This price reflects network management for 55 racks as described above. Please see Attachment E for configuration details	1	EA	\$5,355.45	\$5,355.45
<b>Total price</b>					<b>\$117,711.45</b>

#### Response on the 18 and 23 Ghz Space Diversity pricing.

The 18 and 23 Ghz space diversity configurations are non-standard. The configuration is accomplished by combining two non-standby ODU's with a Hot-standby IDU. The manufacturing build cost is similar to the cost to build two non-standby terminals so the pricing has been set up to reflect the non-standby pricing. The pricing for a 18 Ghz OC3 terminal discounted is \$15,701 per the WSCA pricing. Doubling it for the space diversity configuration brings us to the \$31,402. the other 18 and 23 Ghz configurations are similarly priced.

<b>Req. Item</b>	<b>Description Not for bid award, this pricing will be use to add and remove equipment as require per site location.</b>	<b>Qty</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Total Price</b>
1.	6 GHz Sonet-OC3, space diversity capable microwave terminal +29 dBm, Non Standby, Space Diversity	1	EA	\$20,363*	\$20,363*
2.	11 GHz Sonet-OC3, space diversity capable microwave terminal +27 dBm, Non Standby, Space Diversity	1	EA	\$21,838*	\$21,838*
3.	18 GHz Sonet-OC3, space diversity capable microwave terminal	1	EA	\$31,402*	\$31,402*
4.	23 GHz OC3 Sonet-OC3, space diversity capable microwave terminal	1	EA	\$32,484*	\$32,484*
5.	6 GHz DS3 space diversity capable microwave terminal +29 dBm, Non Standby, Space Diversity	1	EA	\$17,725*	\$17,725*
6.	11 GHz DS3 space diversity capable microwave terminal +27 dBm, Non Standby, Space Diversity	1	EA	\$19,200*	\$19,200*
7.	18 GHz DS3 space diversity capable microwave terminal	1	EA	\$9,700*	\$9,700*
8.	23 GHz DS3 space diversity capable microwave terminal	1	EA	\$9,700*	\$9,700*

9.	Multi-Service Platform (ATM) Router with 2ea 1-Port OC3, 1ea 3-port DS3, 1ea 4-Port Ethernet and 1ea 8-Port T1 Cards as a standard configuration.	1	EA	\$43,455*	\$43,455*
10.	T1/E1 Channel Bank Multiplexer with 2 FXO, 2 FXS and 12 4-wire E&M Channel Cards as a standard configuration.	1	EA	\$4,270*	\$4,270*
11.	1RU Fuse Panel	1	EA	\$341*	\$341*
12.	Rack Isolation and Bracing Kit (per R56 Standard	1	EA	\$113*	\$113*
13.	5620 EN Values: <ul style="list-style-type: none"> <li>• 7470 = 40 points</li> <li>• 7270 = 20 points</li> <li>• 3600 = 10 points</li> <li>• 3630 = 5 points</li> <li>• MDR8000s = 2 points</li> </ul>	1pt	EA	\$125*	\$125*

**\*Pricing from the WCSA Contract.**

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RF PERFORMANCE 2.47 GHz BAND RADIO			
<b>Purpose</b> The purpose of this section is to define the RF performance characteristics for radio equipment operating in the 2.47 GHz microwave radio band.		Read and Understood	
<b>Regulatory Compliance</b> All radio equipment supplied under this contract shall meet the requirement of the approved Sub-Sections of Volume 47 of the Federal Code of Regulations.		Comply	
<b>Configuration</b>			
The equipment supplied for this band shall be available in a hot-standby version having redundant receiver, transmitter, power and multiplex components.		Comply	
<b>Frequency Range and Bandwidth</b>			
The equipment supplied for this band shall comply with the following requirements:		Comply	
<b>Capacity</b>	<b>Frequency in MHz</b>	<b>RF Bandwidth in MHz</b>	
2xDS1	2450-2483.5	1.25	Comply
4 xDS1	2450-2483.5	2.5	Comply
8 xDS1	2450-2483.5	2.5	Comply
Bidders may provide other bandwidths as options. These shall be fully compliant with the current FCC Part 101 technical requirements.		Read and Understood	
<b>Feedline Connection</b>		Comply	
The antenna connection shall be a Type-N female. If an adapter is required to convert from the standard connector on the radio unit, it shall be supplied and included in the unit price.		Comply	
The system shall operate with an antenna system with a peak return loss of 18 dB or greater.		Comply	
A single feedline connection point shall be provided for all radio configurations except space diversity. Space diversity configurations shall have two feedline connection points, one for one receiver and any transmitters and the other for the diversity receiver.		Comply	



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<b>RF Power Levels</b>		
The equipment shall have a minimum output high-power level of +33dBm and low-power level of less than or equal to +15dBm	Comply	The high-power level will be + 34 dBm. Low-power level will be + 14 dBm.
Power levels shall be measured at the feedline connection point and shall include all branching losses. Hot-standby configurations may have power levels reduced from the levels listed above to account for switching losses.	Comply	
Automatic transmitter power control (ATPC) shall be available as an option. It shall be capable of being disabled in the field by operator programming.	Comply	
<b>General Transmitter Specifications</b>		
Frequency stability shall be $\pm 0.001$ percent or greater over the full operating range of the equipment.	Comply	
The transmitter shall be fully solid state.	Comply	
Failure of a redundant amplifier in hot-standby configurations shall not reduce the power output from the radio.	Comply	
Replacement of a failed redundant (standby) amplifier shall not cause a system outage.	Comply	
The transmitter shall be equipped with ability to monitor output power and frequency on an in-service basis.	Comply	
<b>Receiver Thresholds</b>		
Receivers shall have the following guaranteed receive thresholds as a maximum level to obtain a BER $1 \times 10^{-3}$ in a non-protected configuration.	Comply	

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<b>Guaranteed capacity at minimum Received Signal Level (RSL) in dBm as listed below.</b>				
2 - DS-1	-87	Comply		
4 - DS-1	-84	Comply		
8 - DS-1	-77	Comply		
Received threshold levels shall be measured at the feedline connection point and shall include all branching losses.		Comply		
<b>Interference Criteria</b>				
Threshold to interference (T/I) ratios for a like signal required are shown below for the following scenarios:		Comply		
2 DS-1	4 DS-1	8 DS-1		
Co-Channel			Comply	
28	28	28		
Adjacent Channel				
-8	-8	-8	Comply	
<b>General Receiver Specifications</b>				
The receiver frequency stability shall be $\pm 0.001$ percent or better over the operating range of the receiver.		Comply		
The receiver shall have a maximum received signal limit of not less than -17dBm when at a 1 in $10^{-3}$ BER.		Comply		
The dynamic range of the receiver shall be a minimum of 58 dB.		Comply		

**Alcatel**

<b>Req. Item</b>	<b>Description</b>	<b>*Qty</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Total Price</b>
1	2.47 GHz, Digital Radio, Hot Standby,  2XDS1, High Power (+34dBm)  <i>For Product Bid State:</i> <i>Mfg.: <u>Alcatel USA Marketing, Inc.</u></i> <i>Brand/Model: <u>MDR-8502-2-34-HS</u></i>	10	EA	\$19,883.00	\$198,830.00
2.	2.47 GHz, Digital Radio, Hot Standby,  4XDS1, High Power (+34dBm)  <i>For Product Bid State:</i> <i>Mfg.: <u>Alcatel USA Marketing, Inc.</u></i> <i>Brand/Model: <u>MDR-8502-4-34-HS</u></i>	10	EA	\$20,644.00	\$206,440.00
3.	2.47 GHz, Digital Radio, Hot Standby,  8XDS1, High Power (+34dBm)  <i>For Product Bid State:</i> <i>Mfg.: <u>Alcatel USA Marketing, Inc.</u></i> <i>Brand/Model: <u>MDR-8702-8-34-HS</u></i>	10	EA	\$21,928.00	\$219,280.00
<b>Total price for bid evaluation and award</b>					<b>\$624,550.00</b>
<b>The listed prices represent % off manufacturer list price</b>					<b>45,47 &amp; 51% Respectively</b>

\*The Qty is an estimate usage; the actual qty will be dependent on funding and the final system design.

**Alcatel**

<b>Req. Item</b>	<b>Description</b>	<b>*Qty</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Total Price</b>
1	2.47 GHz, Digital Radio, Hot Standby, 2XDS1, Low Power (+14dBm)  <i>For Product Bid State:</i> <i>Mfg.: <u>Alcatel USA Marketing, Inc.</u></i> <i>Brand/Model: <u>MDR-8502-2-14-HS</u></i>	1	EA	\$13,063.00	\$13,063.00
4.	2.47 GHz, Digital Radio, Hot Standby, 4XDS1, Low Power (+14dBm)  <i>For Product Bid State:</i> <i>Mfg.: <u>Alcatel USA Marketing, Inc.</u></i> <i>Brand/Model: <u>MDR-8502-4-14-HS</u></i>	1	EA	\$14,072.00	\$14,072.00
5.	2.47 GHz, Digital Radio, Hot Standby, 8XDS1, Low Power (+14dBm)  <i>For Product Bid State:</i> <i>Mfg.: <u>Alcatel USA Marketing, Inc.</u></i> <i>Brand/Model: <u>MDR-8702-8-14-HS</u></i>	1	EA	\$15,852.00	\$15,852.00
<b>Total price for bid evaluation and award</b>					<b>\$42,987.00</b>
<b>The listed prices represent % off manufacturer list price</b>					<b>45,47 &amp; 51% Respectively</b>

\*The Qty is an estimate usage; the actual qty will be dependent on funding and the final system design.

**Communications – Applied Technology****CONTRACTOR INFORMATION****Contractor:** [Communications-Applied Technology](#)**Page number****Contact:** Seth Leyman**Alternate Contact:** Josie Leyman**Phone:** 800-229-3925

800-229-3925

**Fax:** 703-471-4428

703-471-4428

**Email:** [leymans@c-at.com](mailto:leymans@c-at.com)[leymanj@c-at.com](mailto:leymanj@c-at.com)**Internet address:** [www.c-at.com](http://www.c-at.com)**Web catalog address:****Federal ID No.:** 54-1215868**Supplier No.:** 111325**Total Contract worth:** \$500,000,000.00**Payment address:** Communications-Applied**Order** Communications-Applied

Techlology

**placement** Techlology

11250 – 14 Roger Bacon Dr

**address:** 11250 – 14 Roger Bacon Dr

Reston, VA 20190-5202

Reston, VA 20190-5202

**Customer Service:** Seth Leyman**Telephone:** 800-229-3925**Fax:** 703-471-4428**Ordering procedures:****Credit card acceptance:** Visa, MasterCard**Minimum orders:****Delivery time:** 60 days After Receipt of Order (ARO)**Payment terms:** 0% 30 days**Shipping destination:** Freight on Board (FOB) destination**Freight:** Prepaid and included**Palletization:** N/A**Category** Category 4, Gateway Devices; Item B, ICR Unit**Equipment Line items****Link to bid Specifications****Link to Price Sheets****Awarded Phase(s)** Phase II

**Communications – Applied Technology – Phase II**

The purpose of this section is to purchase an audio switch unit(s) that has interface adapters for a variety of communications devices and mediums (VHF/UHF radio, telephone or Satcom, HF radio, local operator, etc.). The switch shall consist of a small portable control unit containing all audio and switching circuitry, medium interface connectors, controls and indicators. Accessory adapters for a variety of external communications devices and mediums shall be supported.

**Category 4, Specifications for ICRI audio switch**

Description
<b>ICRI Ordering/Part No.:</b> 500.9250 with single talk group; 500.9260 with two talk groups for all ports with external control switches
<b>ICRI RX Audio Input</b>
<b>Input Impedance:</b> Unbalanced, 80 ohms nominal.
<b>Input level:</b> -32 dBm to + 12 dBm, no adjustment required.
<b>Frequency Response:</b> 280 Hz to 3400 kHz $\pm$ 2dB.
<b>VOX Attack Time:</b> Less than 2 ms, nominal, for typical speech.
<b>VOX Threshold:</b> Adjustable -32 to -6 dBm.
<b>VOX Hang Time (Tail Time):</b> Adjustable 0.5 to 2 seconds.
<b>VOX Timeout Timer:</b> Adjustable 30 to 90 seconds.
<b>ICRI TX Audio Output</b>
<b>Output Impedance:</b> Unbalanced, 1000 ohms nominal.
<b>Output Level:</b> -40 to -18 dBm, adjustable.
<b>Frequency Response:</b> 280 to 3400 Hz $\pm$ 2dB
<b>Audio Delay:</b> Both nets, individually adjustable; 0, 50, 100,150, 200, 250, 300, 350, 400 and 500 ms.
<b>ICRI PTT Output</b>
<b>Output Type:</b> Dual, (a) open drain; (b) open drain shunting 6.65 K control resistor (Motorola Saber/AstroSaber compatibility).
<b>Polarity:</b> Active low.
<b>Maximum Sink Current:</b> 200 ma.
<b>Maximum Open Circuit Voltage:</b> + 60 vdc.
<b>Acoustic Coupler Interface</b>
<b>Compatibility:</b> C-AT part no. 179.0655, with electret microphone.
<b>VOX Attack Time:</b> Less 2 ms, nominal, for typical speech
<b>VOX Hang Time:</b> Adjustable 0.5 to 2 seconds.
<b>Cellular/Auxiliary Input</b>
<b>Input Type:</b> Unbalanced
<b>Input Range/VOX Threshold:</b> -50 to +10 dBm, adjustable.
<b>VOX Attack Time:</b> Less 2 ms, nominal, for typical speech
<b>VOX Hang Time:</b> Adjustable 0.5 to 2 seconds.
<b>VOX Timeout Timer:</b> Adjustable 30 to 90 seconds.
<b>Output Type:</b> Unbalanced.
<b>Output Range:</b> -40 to +3 dBm, adjustable.
<b>Handset</b>

**Communications – Applied Technology – Phase II**

Description
<b>Compatibility:</b> C-AT part number 280.0125 handset with noise canceling electret microphone and PTT bar.
<b>Handset Volume Control:</b> 70 dB range.
<b>Initiation:</b> PTT bar.
<b>General/Environmental</b>
<b>ICRI Controls:</b> Guarded, power on/off switch; switches (7), handset volume control., Talk Group1/OFF/Talk Group 2 (ICRI 500.9260 only)
<b>ICRI Indicators:</b> Power “OK” LED, power “LOW” LED, channel active LEDs (7).
<b>ICRI connectors:</b> Positive lock, Radio channel I/O (5), Coupler/Cellular/auxiliary input connector, handset connector, power connector.
<b>DC Input Power:</b> +6.5 to + 20 VDC @ 0.15A maximum.
<b>AC Input Power:</b> 115 to 230 VAC $\pm$ 15%, 47-63 Hz, 3 VA maximum (with 320.0431 ac adapter).
<b>Weight:</b> 3.3 lbs. (1.5 kg), without adapters and accessories.
<b>Size:</b> 3.5” H X 10.0” W X 7.0” D (8.9 X 25.4 X 17.8 cm), excluding control panel connectors/switch protrusions.
<b>Temperature:</b> Operating: -20 to +60 degrees C; storage: -40 to +85 degrees C.
<b>Humidity:</b> Up to 95% @ 55 degrees C.
<b>Shock:</b> Suitable for mobile and portable environments.
<b>Vibration:</b> Suitable for mobile and vehicular environments
<b>Provide product support for 7 years after last unit being purchase from this RFP.</b>

**Communications – Applied Technology – Phase II****PRICE SHEETS**

<b>Req. Item</b>	<b>Comm. Code</b>	<b>Description</b>	<b>Unit Price</b>
1.		C-AT ICRI with dual talk group capability Product Bid State: Mfg.: Communications-Applied Technology      Model: 500.9260	\$7,500
2.		C-AT ICRI with single talk group capability Product Bid State: Mfg.: Communications-Applied Technology      Model: 500.9250	\$4,500
3.		ICRI Audio buffer/delay for ICRI models 500.9250 and 500.9260 when used with trunked radios Product Bid State: Mfg.: Communications-Applied Technology      C-AT p/n 500.9311	\$250
4.		Battery pack (8 “AA” batteries not provided) Product Bid State: Mfg.: Communications-Applied Technology      C-AT p/n 160.3611	\$75
5.		Adapter/cable for ICRI to 8 “AA” battery pack Product Bid State: Mfg.: Communications-Applied Technology      C-AT p/n 180.0450	\$120
6.		ICRI DC input cable, dual mode Product Bid State: Mfg.: Communications-Applied Technology      C-AT p/n 179.0730	\$75
7.		ICRI 115V AC power supply Product Bid State: Mfg.: Communications-Applied Technology      C-AT p/n 320.0431	\$120
8.		ICRI Waterproof case (based on Pelican 1550) with die-cut foam insert Product Bid State: Mfg.: Communications-Applied Technology      C-AT p/n 990.9602	\$275
9.		ICRI Waterproof case (based on Pelican 1600) with die-cut foam insert Product Bid State: Mfg.: Communications-Applied Technology      C-AT p/n 990.9601	\$300



**Communications – Applied Technology – Phase II**

<b>Req. Item</b>	<b>Comm. Code</b>	<b>Description</b>	<b>Unit Price</b>
10.		ICRI 250' universal audio extension cable on reel Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.6206	\$350
11.		ICRI Handset with P-T-T and coiled cord Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 280.0125	\$200
12.		Bracket for mounting ICRI in a 19" rack, 2U space required (hardware included) Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 200.7000	\$175
13.		Cable, ICRI-to-ICRI link to expand # of participants in a talk group, 6' Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0656	\$60
14.		Cable, acoustic coupler, ICRI-to-cellular phone/Satellite phone/ land-line telephone handsets Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0655	\$165
15.		Cable, 2.5mm jack, ICRI-to-cell phones & Nextel in telephone mode Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0672	\$55
16.		Cable, ICRI-to-Nextel i90 and similar models. Nextel operation 2-way radio mode Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0677	\$150
17.		Cable, ICRI-to-Nextel i1000 and similar models. Nextel operation 2-way radio mode Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0678	\$110

**Communications – Applied Technology – Phase II**

<b>Req. Item</b>	<b>Comm. Code</b>	<b>Description</b>	<b>Unit Price</b>
18.		Cable, universal ICRI-to-portable radio (requires radio speaker-mic assembly to be provided for temporary disassembly) Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0734	\$70
19.		Cable, ICRI-to-Bendix King LMH radio Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0670	\$133
20.		Cable, ICRI-to-Bendix King LPH radio Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0671	\$133
21.		Cable, ICRI-to-Bendix King EPH radio Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0673	\$136
22.		Cable, ICRI-to-Ericsson Jaguar (includes in-line amplifier) Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0733	\$230
23.		Cable, ICRI-to-Ericsson LPE-200 (includes in-line amplifier) Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0662	\$230
24.		Cable, ICRI-to-Ericsson M-PA (includes in-line amplifier) Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0660	\$230
25.		Cable, ICRI-to-Ericsson M-RK (includes in-line amplifier) Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0661	\$230
26.		Cable, ICRI-to-Ericsson Panther 500 & KPC Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0732	\$230

**Communications – Applied Technology – Phase II**

<b>Req. Item</b>	<b>Comm. Code</b>	<b>Description</b>	<b>Unit Price</b>
27.		Cable, ICRI-to-military radio (radios compatible with H-250/U or H-350/U handsets incl. PRC-119/117, MBITR, SINCGARS) Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0600	\$125
28.		Cable, ICRI-to-military PRC-127 radio Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0600	\$125
29.		Cable, ICRI-to-Motorola Jedi Series radios incl. HT-1000, MT-2000, XTS-3000/3500/5000 Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0630	\$230
30.		Cable, ICRI-to-Motorola radios incl. MT-1000, HT-600, P-200 (Radius) Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0640	\$230
31.		Cable, ICRI-to-Motorola GP-350 radio Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.6018	\$160
32.		Cable, ICRI-to-Motorola radios incl. GTX, LTS2000, GP300, P1225 (Radius) Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0634	\$160
33.		Cable, ICRI-to-Motorola radios incl. HT-1250, HT-750 Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0735	\$160
34.		Cable, ICRI-to-Motorola Saber & AstroSaber Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.0710	\$230
35.		Cable, ICRI-to-radios compatible with Hirose 6-pin connector Product Bid State: Mfg.: Communications-Applied Technology C-AT p/n 179.1910	\$120

**Communications – Applied Technology – Phase II**

<b>Req. Item</b>	<b>Comm. Code</b>	<b>Description</b>	<b>Unit Price</b>
36.		Cable, ICRI-to-Kenwood series 280,290,380,390,480 (UHF and VHF) Product Bid State: Mfg.: Communications-Applied Technology C-AT P/N 179.0136	\$160
37.		Cable, ICRI-to-Kenwood series 208,220,240,248,250,260,360 (UHF and VHF) Product Bid State: Mfg.: Communications-Applied Technology C-AT P/N 179.6013	\$160

**VOLUME DISCOUNT PROGRAM - PHASE 2 ALL CATEGORIES**

The volume discount will be cumulative and over the term of the contract.  
(Initial Term of Three [3] Years)

<b>Additional Discount off Net Contract Unit Price</b>	<b>Cumulative Total Sales from:</b>	<b>Cumulative Total Sales to:</b>
25 %	\$ 5,000,000	\$ 9,999,999
25 %	\$ 10,000,000	\$ 14,999,999
25 %	\$ 15,000,000	\$ 19,999,999
25 %	\$ 20,000,000	\$ 29,999,999
25 %	\$ 30,000,000	\$ 39,999,999
25 %	\$ 40,000,000	\$ 49,999,999
25 %	\$ 50,000,000	\$ 59,999,999
25 %	\$ 60,000,000	\$ 69,999,999
25 %	\$ 70,000,000	\$ 79,999,999
25 %	\$ 80,000,000	\$ 89,999,999
25 %	\$ 90,000,000	\$ 99,999,999
25 %	\$100,000,000	\$ 100,000,000+

**Ceragon****Contractor:** **Ceragon Networks****Contact:** Scott Sweetland**Alternate Contact:** Jeffrey Sarasohn**Phone:** 603-886-8503

201-529-4444 x14

**Fax:** 603-886-8523

201-529-4559

**Email:** [ssweetland@ceragon.com](mailto:ssweetland@ceragon.com)[jeff@ceragon.com](mailto:jeff@ceragon.com)**Internet address:** [www.ceragon.com](http://www.ceragon.com)**Web catalog address:****Federal ID No.:** 22-3642164**Supplier No.:** 111290**Total Contract worth:****Payment address:** 777 Corporate Drive  
Mahwah, NJ 07430**Order placement address:** 777 Corporate Drive  
Mahwah, NJ 07430**Customer Service:** Yael Zilberman**Telephone:** 201-529-4444 x 10**Fax:** 201-529-4559**Ordering procedures:****Credit card acceptance:** No**Minimum orders:****Delivery time:** 60 Days ARO**Payment terms:** Net 30**Shipping destination:** Freight on Board (FOB) destination**Freight:** Prepaid and included**Palletization:****Category****Equipment Line items****Link to bid Specifications****Link to Price Sheets****Awarded Phase(s)** Phase I

**Ceragon – Phase I**

CONTRACTOR WAREHOUSE Proposer(s) shall indicate below each warehouse location at which material, equipment or supplies will be stored.

ADDRESS: Ceragon Networks  
777 Corporate Drive  
Mahwah, NJ 07430

PHONE: (201) 529-4444  
 CONTACT: Yael Zilberman

ADDRESS: HUTTON Communications  
945 Spice Islands, Suite B  
Sparks, NV 89431

PHONE: (877) 648-8866  
 CONTACT: \_\_\_\_\_

SERVICING: Indicate below the names and addresses of sales representatives and specific territories covered. Proposer's ability to service state agencies including local sales representation may be a factor in the award. Contractor must provide immediate attention to problem areas as they arise regardless of location. Submit an attached letter if necessary.

NAME: Scott Sweetland

NAME: Kelly Smith

ADDRESS: One Chestnut St., #337  
Nashua, NH 03060

ADDRESS: 25744 SE 37<sup>th</sup> St.  
Issaquah, WA 98029

TERRITORY: VP Sales, US&Canada

TERRITORY: Sales Support, Western Region

PHONE: 603-886-8503

PHONE: 425-961-0207

**FACTORY AUTHORIZED SERVICE:**

Factory authorized service must be available in the destination area. List your service centers including name and address of each.

FIRM NAME: Ceragon Networks, Inc.

ADDRESS: 777 Corporate Drive  
Mahwah, NJ 07430

Req. Item	Comm. Code	Description	Qty	Unit	Percentage off Mfg List Price
1.		Support Services	Hourly	EA	\$
2.		Installation Services	Hourly	EA	\$
3.		Repair Services	Hourly	EA	\$
4.		Accessories Antennas		EA	25%
5.		List other Equipment Additional Radios		EA	35%

**Daniels Electronics****Contractor:** [Daniels Electronics](#)**Contact:** Douglas Bigrigg**Alternate Contact:** Mark Waldie**Phone:** 1-800-664-4066

1-800-664-4066

**Fax:** 1-877-750-0004

1-877-750-0004

**Email:** [douglas\\_bigrigg@danelec.com](mailto:douglas_bigrigg@danelec.com)[mark\\_waldie@danelec.com](mailto:mark_waldie@danelec.com)**Internet address:****Product catalog address:** <http://www.ga.wa.gov/pca/contract/02702-Daniels-Radio-100704.pdf>**Federal ID No.:****Supplier No.:** 111920**Total Contract worth:****Payment address:** Daniels Electronics Ltd.  
43 Erie Street,  
Victoria, BC, Canada V8V 1P8**Order placement address:** Daniels Electronics Ltd.  
43 Erie Street,  
Victoria, BC, Canada V8V 1P8**Customer Service:** Rich Sanchez**Telephone:** 1-800-664-4066**Fax:** 1-877-750-0004**Ordering procedures:****Credit card acceptance:** VISA, MasterCard**Minimum orders:****Delivery time:** 120 Days ARO**Payment terms:** 2% Net 20**Shipping destination:** Free on Board (FOB) Destination**Freight:** Prepaid and included**Palletization:****Category****Equipment Line items****Link to bid Specifications****Link to Price Sheets****Awarded Phase(s)** Phase I

**Daniels Electronics**

SERVICING: Indicate below the names and addresses of sales representatives and specific territories covered. Proposer's ability to service state agencies including local sales representation may be a factor in the award. Contractor must provide immediate attention to problem areas as they arise regardless of location. Submit an attached letter if necessary.

NAME: Manon Engineering  
ADDRESS: 10605 NE 68th St. Suite 201  
Kirkland, WA 98033  
TERRITORY: AK, WA, OR, ID, HI, MT  
PHONE: (425) 827-7449

NAME: Aurora Marketing  
ADDRESS: 2018 South Pontiac Drive  
Denver, CO 80224  
TERRITORY: MT, ID, WY, UT, CO, NM, TX  
PHONE: (303) 758-3051

NAME: DacoM  
ADDRESS: 6119-A 27th St  
Sacramento, CA 95822  
TERRITORY: Northern CA, Northern NV  
PHONE: (916) 422-3453

NAME: GVT Marketing  
ADDRESS: P.O. Box 390459  
Anza, CA 92539  
TERRITORY: Southern CA, Southern NV, AZ  
PHONE: (909) 763-1001

NAME: Edward J. Gordon  
ADDRESS: 2970 Marine Circle P.O. Box 283  
Stillwater, MN 55082  
TERRITORY: Northern CA, Northern NV  
PHONE: (916) 422-3453

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
\_\_\_\_\_  
TERRITORY: \_\_\_\_\_  
PHONE: \_\_\_\_\_

**FACTORY AUTHORIZED SERVICE:**

Factory authorized service must be available in the destination area. List your service centers including name and address of each.

FIRM NAME: Daniels Electronics Ltd.  
ADDRESS: 43 Erie Street , Victoria, BC  
V8V 1P8 Canada



**Daniels Electronics – Phase I****SERVICE CENTERS**

Daniels Electronics Ltd., 43 Erie Street, Victoria BC, Canada, 1-800-664-4066

Ship to:

**Daniels Electronics Ltd.****c/o The Victoria Clipper****2701 Alaskan Way, Pier 69****Seattle, WA 98121****Phase 1 Price Sheet**

<b>Req. Item</b>	<b>Comm. Code</b>	<b>Description</b>	<b>Qty</b>	<b>Unit</b>	<b>Percentage off Mfg List Price</b>
1.		Base Station	1-4 5-10 11+	EA EA EA	40% 40% 40%
2.		Repeater	1-4 5-10 11+	EA EA EA	40% 40% 40%
3.		Repair Services	Hourly	EA	\$85.00
4.		Accessories Low Band – Model MT-3		EA	40%
5.		List other Equipment AM Base/Repeater – Model MT-3		EA	40%
6.		List other Equipment P25 Base/Repeaters – Model MT-4		EA	40%

**CONTRACTOR INFORMATION**

<b>Contractor:</b>	<b>EF Johnson Company</b>		
<b>Contact:</b>	Carol Triggs	<b>Alternate Contact:</b>	Mark Morgan
<b>Phone:</b>	972-819-0727		623-412-2972
<b>Fax:</b>	972-819-0639		623-412-2975
<b>Email:</b>	<a href="mailto:ctriggs@efjohnson.com">ctriggs@efjohnson.com</a>		<a href="mailto:mmorgan@efjohnson.com">mmorgan@efjohnson.com</a>
<b>Internet address:</b>	<a href="http://www.efjohnson.com">www.efjohnson.com</a>		
<b>Web catalog address:</b>			
<b>Federal ID No.:</b>	41-0436849		
<b>Supplier No.:</b>	W1270		
<b>Total Contract worth:</b>	\$500,000,000.00		
<b>Payment address:</b>	EFJohnson PO Box 403312 Atlanta, GA 30384-3312	<b>Order placement address:</b>	EFJohnson Attn: Order Admin 1440 Corporate Drive Irving, TX 75038-2401
<b>Customer Service:</b>	Ray Burbank		
<b>Telephone:</b>	800-368-4329 ext. 2654		
<b>Fax:</b>	972-819-2307		
<b>Ordering procedures:</b>			
<b>Credit card acceptance:</b>	None		
<b>Minimum orders:</b>			
<b>Currently Installed Systems, upgrade equipment, radio equipment and accessories</b>	20% off Manufacturer List Price		
<b>Support Services</b>	\$125 per hour		
<b>Installation Services</b>	\$125 per hour		
<b>Repair Services</b>	\$125 per hour		
<b>Delivery time:</b>	Negotiated days After Receipt of Order (ARO)		
<b>Payment terms:</b>	0% 30 days		
<b>Shipping destination:</b>	Freight on Board (FOB) destination		
<b>Freight:</b>	Prepaid and included		
<b>Palletization:</b>	N/A		
<b>Category</b>	Category 1		
<b>Equipment Line items</b>			
<b>Link to bid Specifications</b>			
<b>Awarded Phase(s)</b>	Phase I & II		

**EF Johnson Company – Phase II****EF JOHNSON Price Sheet**

<b>ITEM</b>	<b>Mfg Name</b>	<b>Brand/Model#</b>	<b>Total Price</b>
<b>Portable Analog</b>			
High VHF 136-174 Quality Category A	EF Johnson	5112-610-10	\$1,495.00
High VHF 136-174 Quality Category B	EF Johnson	5112-610-10	\$1,495.00
UHF 450-470 Quality Category A	EF Johnson	5132-410-10	\$1,484.60
UHF 450-470 Quality Category B	EF Johnson	5132-410-10	\$1,484.60
UHF 450-470 Category D	EF Johnson	5132-410-10	\$1,484.60
UHF 806-870 Quality Category A	EF Johnson	5182-810-10	\$1,484.60
UHF 806-870 Quality Category B	EF Johnson	5182-810-10	\$1,484.60
UHF 806-870 Quality Category C	EF Johnson	7780-302	\$718.25
UHF 806-870 Quality Category D	EF Johnson	7780-302	\$718.25
<b>Desktop Analog</b>			
UHF 806-870 Quality Category C	EF Johnson	9883-303	\$1,326.65
UHF 806-870 Quality Category D	EF Johnson	9883-302	\$1,196.65
<b>Mobile Analog</b>			
High VHF 136-174 Quality Category B	EF Johnson	5317-11-10	\$1,764.75
High VHF 136-174 Category C	EF Johnson	5317-11-10	\$1,764.75
High VHF 136-174 Category D	EF Johnson	5317-11-10	\$1,764.75
UHF 806-870 Quality Category C	EF Johnson	9883-303	\$848.25
UHF 806-870 Quality Category D	EF Johnson	9883-302	\$718.25
<b>Portable Digital</b>			
High VHF 136-174 Quality Category A	EF Johnson	5112-610-20	\$1,762.80
High VHF 136-174 Quality Category B	EF Johnson	5112-610-20	\$1,762.80
High VHF 136-174 Quality Category C	EF Johnson	5112-610-20	\$1,762.80
High VHF 136-174 Category D	EF Johnson	5112-610-20	\$1,762.80
UHF 450-470 Quality Category A	EF Johnson	5132-410-20	\$1,754.40
UHF 450-470 Quality Category B	EF Johnson	5132-410-20	\$1,754.40
UHF 450-470 Quality Category C	EF Johnson	5132-410-20	\$1,754.40
UHF 450-470 Quality Category D	EF Johnson	5132-410-20	\$1,754.40
UHF 806-870 Quality Category A	EF Johnson	5182-810-20	\$1,754.40
UHF 806-870 Quality Category B	EF Johnson	5182-810-20	\$1,754.40
UHF 806-870 Quality Category C	EF Johnson	5182-810-20	\$1,754.40
UHF 806-870 Category D	EF Johnson	5182-810-20	\$1,754.40
<b>Desktop Digital</b>			
High VHF 136-174 Quality Category D	EF Johnson	5317-11-20	\$2,190.50
UHF 806-870 Quality Category C	EF Johnson	5337-11-20	\$2,190.50
UHF 806-870 Quality Category D	EF Johnson	5337-11-20	\$2,190.50
<b>Mobile Digital</b>			
High VHF 136-174 Quality Category C	EF Johnson	5137-11-20	\$1,901.25
High VHF 136-174 Quality Category D	EF Johnson	5137-11-20	\$1,901.25
UHF 806-870 Quality Category C	EF Johnson	5387-11-20	\$1,901.25
UHF 806-870 Quality Category D	EF Johnson	5387-11-20	\$1,901.25

Additional Item Request

**EF Johnson Company – Phase II**

ITEM	Mfg Name	Brand/Model#	Total Price
<b>Mobile Trunked Digital</b>			
High VHF 136-174 Quality Category C	EF Johnson	5317-11-21	\$2,158.65
High VHF 136-174 Quality Category D	EF Johnson	5317-11-21	\$2,158.65
UHF 806-870 Quality Category C	EF Johnson	5387-11-21	\$2,158.65
UHF 806-870 Quality Category D	EF Johnson	5387-11-21	\$2,158.65
<b>Portable Trunked Digital</b>			
High VHF 136-174 Quality Category B	EF Johnson	5112-610-21	\$1,732.90
High VHF 136-174 Quality Category C	EF Johnson	5112-610-21	\$1,732.90
High VHF 136-174 Quality Category D	ED Johnson	5112-610-21	\$1,732.90
UHF 450-470 Quality Category A	EF Johnson	5100 Series	\$1,722.50
UHF 450-470 Quality Category B	EF Johnson	5100 Series	\$1,722.50
UHF 450-470 Quality Category C	EF Johnson	5100 Series	\$1,722.50
UHF 450-470 Quality Category D	EF Johnson	5100 Series	\$1,722.50
UHF 806-870 Quality Category B	EF Johnson	5132-410-21	\$1,722.50
UHF 806-870 Quality Category C	EF Johnson	5132-410-21	\$1,722.50
UHF 806-870 Quality Category D	EF Johnson	5132-410-21	\$1,722.50

Discount percentage represented by bid prices is		35% off of List
Delivery - expressed in days after Receipt of Order		Varies by Order
Warranty Period - in excess of that required by the specifications (in days)		0 days
% Tax required		Varies by State
Components added to the above models to meet required specifications:		None

Additional Item Request

**EF Johnson Company – Phase II****Portable Analog****High VHF 136-174 Quality Category A**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	160	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	± 2.0
Channel Spacing, kHz	12.5 / 25 / 30	12.5 / 25 / 30
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/5 selectable (Low/High)	1/5 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-66	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	3	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-75/-65	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-75	-78
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	3	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ		
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,495.00</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
	Flashing EEPROM	Available
	Provision for Field Software Upgrade	Available
2	Secure Encryption Option	\$375.70
250-5100-210	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ *	\$97.50
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
589-0015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Analog****High VHF 136-174 Quality Category B**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	48	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	± 2.0
Channel Spacing, kHz	12.5 / 25 / 30	12.5 / 25 / 30
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/5 selectable (Low/High)	1/5 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-65	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	3	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-75/-65	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-75	-78
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	3	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,495.00</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
	Flashing EEPROM	Available
	Provision for Field Software Upgrade	Available
2	Secure Encryption Option	\$375.70
250-5100-210	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ *	\$97.50
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
589-0015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Analog****UHF 450-470 Quality Category A**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	160	256
Operational Bandwidth/Maximum Frequency Separation, MHz	20	62
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	± 2.0
Channel Spacing, kHz	12.5 / 25	12.5 / 25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/4 selectable (Low/High)	1/4 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-65	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	3	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-73/-63	-75
Spurious and Image Rejection, dB	-73	-75
Intermodulation, dB	-73	-77
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	3	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,484.60</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
	Flashing EEPROM	Available
	Provision for Field Software Upgrade	Available
2	Secure Encryption Option	\$375.70
250-5100-210	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ *	\$97.50
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
589-0015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Analog****UHF 450-470 Quality Category B**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	40	256
Operational Bandwidth/Maximum Frequency Separation, MHz	20	62
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	± 2.0
Channel Spacing, kHz	12.5 / 25	12.5 / 25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/4 selectable (Low/High)	1/4 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-65	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	3	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-73/-63	-75
Spurious and Image Rejection, dB	-73	-75
Intermodulation, dB	-73	-77
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	3	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,484.60</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
	Flashing EEPROM	Available
	Provision for Field Software Upgrade	Available
2	Secure Encryption Option	\$375.70
250-5100-210	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ *	\$97.50
51S3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
589-0015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	



**EF Johnson Company – Phase II****Portable Analog****UHF 450-470 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	2	256
Operational Bandwidth/Maximum Frequency Separation, MHz	20	62
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	2.0
Channel Spacing, kHz	12.5 / 25	12.5/25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/4 selectable (Low/High)	1/4 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-60	-70
FM Noise, dB	-40	-45
Audio Distortion, % maximum	5	2
Audio Response (per TIA/EIA 603)	+1, -3	+3, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-60	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-70	-77
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,484.60</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ *	\$97.50
included	Position Rotary Channel/Mode Select Switch Option	n/c
included	Low Battery Alert Tone Option	n/c
Included	Alphanumeric Display Option	n/c
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	n/c
585-5100-120	Leather Carrying Case Option	\$160.55
589-0015-057	External Speaker/Microphone Option	\$45.50
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
	Flashing EEPROM	available
	Provision for Field Software Upgrade	available
-2	Secure Encryption Option	\$375.70
n/a	RF Power Amplifiers Option	n/a
n/a	Paging Decoder Option	n/a
included	Emergency Button/Switch Option	
included	Programmable Button/Switch Option	
included	Push-to-talk ID Transmission Option	
<b>See Attached</b>	<b>See Price Pages attached form complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Analog****UHF 806-870 Quality Category A**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	160	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	± 1.5	± 1.5
Channel Spacing, kHz	12.5/20/25	12.5/25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/3 selectable (Low/High)	1/3 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-48	-60
FM Noise, dB	-40	-45
Audio Distortion, % maximum	3	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-72/-63	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-72	-74
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	3	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,484.60</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
	Flashing EEPROM	Available
	Provision for Field Software Upgrade	Available
2	Secure Encryption Option	\$375.70
250-5100-210	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ *	\$97.50
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
589-0015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Analog****UHF 806-870 Quality Category B**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	48	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	± 1.5	± 1.5
Channel Spacing, kHz	12.5/20/25	12.5/25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/3 selectable (Low/High)	1/3 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-48	-75
FM Noise, dB	-40	-45
Audio Distortion, % maximum	3	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-72/-63	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-72	-74
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	3	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ		
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,484.60</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
	Flashing EEPROM	Available
	Provision for Field Software Upgrade	Available
2	Secure Encryption Option	\$375.70
250-05100-210	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ *	\$97.50
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
589-0015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Analog****UHF 806-870 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	14	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	± 1.5
Channel Spacing, kHz	12.5/20/25	25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/3 selectable (Low/High)	1/3 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-45	-60
FM Noise, dB	-40	-40
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-63	-68
Spurious and Image Rejection, dB	-70	-68
Intermodulation, dB	-70	-68
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ		
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$718.25</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		7700 Series
Prices are based on price list quoted above dated:		1/4/2002

**EF Johnson Company – Phase II**

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
585-5020-020/021	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ *	\$79.30
included	Position Rotary Channel/Mode Select Switch Option	
included	Low Battery Alert Tone Option	
included	Alphanumeric Display Option	
n/c	Dual Tone Multi Frequency encoder and Key Pad Option	
585-5000-052	Leather Carrying Case Option	\$52.00
589-0015-047	External Speaker/Microphone Option	\$81.25
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
	Flashing EEPROM	Available
	Provision for Field Software Upgrade	Available
n/a	Secure Encryption Option	n/a
n/a	RF Power Amplifiers Option	n/a
n/a	Paging Decoder Option	n/a
included	Emergency Button/Switch Option	
included	Programmable Button/Switch Option	
included	Push-to-talk ID Transmission Option	
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Analog****UHF 806-870 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	2	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	± 1.5
Channel Spacing, kHz	12.5/20/25	25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/3 selectable (Low/High)	1/3 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-45	-60
FM Noise, dB	-40	-40
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-63	-68
Spurious and Image Rejection, dB	-70	-68
Intermodulation, dB	-70	-68
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-	
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$718.25</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		7700 Series
Prices are based on price list quoted above dated:		1/4/2002

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
585-5020-020/021	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ *	\$73.30
included	Position Rotary Channel/Mode Select Switch Option	
included	Low Battery Alert Tone Option	
Included	Alphanumeric Display Option	
n/c	Dual Tone Multi Frequency encoder and Key Pad Option	
585-5000-052	Leather Carrying Case Option	
589-0015-047	External Speaker/Microphone Option	\$52.00
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
	Flashing EEPROM	Available
	Provision for Field Software Upgrade	Available
n/a	Secure Encryption Option	n/a
n/a	RF Power Amplifiers Option	n/a
n/a	Paging Decoder Option	n/a
included	Emergency Button/Switch Option	
included	Programmable Button/Switch Option	
included	Push-to-talk ID Transmission Option	
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	



**EF Johnson Company – Phase II****Desktop Analog****UHF 806-870 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	32	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	1.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	35	30
Radiated Spurious & Harmonic Emission, dB	-60	-60
FM Noise, dB	-35	-45/-38
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-115	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-70/-60
Spurious and Image Rejection, dB	-70	-70
Intermodulation, dB	-68	-70
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,326.65</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		9800 Series
Prices are based on price list quoted above dated:		1/4/2002

<b>OPTIONAL OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
	Flashing EEPROM	available
	Provision for Field Software Upgrade	available
n/a	Secure Encryption Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Desktop Analog****UHF 806-870 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	16	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	1.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	15	30
Radiated Spurious & Harmonic Emission, dB	-55	-70
FM Noise, dB	-35	-45/-38
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-115	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-70/-60
Spurious and Image Rejection, dB	-70	-70
Intermodulation, dB	-68	-70
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,196.65</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		9800 Series
Prices are based on price list quoted above dated:		1/4/2002

<b>OPTIONAL OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
	Flashing EEPROM	available
	Provision for Field Software Upgrade	available
n/a	Secure Encryption Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Mobile Analog****High VHF 136-174 Quality Category B**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	160	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	2.5
Channel Spacing, kHz	12.5 / 25 / 30	12.5 / 25 / 30
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	50	50
Radiated Spurious & Harmonic Emission, dB	-70	-70
FM Noise, dB	-40	-45
Audio Distortion, % maximum	3	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-75/-65	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-75	-75
Speaker Audio Output, watts	5	12
Audio Distortion, % maximum	3	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm		
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,764.75</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5300 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
	Flashing EEPROM	available
	Provision for Field Software Upgrade	available
-2	Secure Encryption Option	\$617.50
585-4001-202	Desktop/Mobile Conversion Option	\$139.75
<b>OPTIONAL OPTIONS</b>		
n/a	Second Programmable Receiver with Separate Speaker	
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Mobile Analog****High VHF 136-174 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	32	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	2.5
Channel Spacing, kHz	12.5 / 25 / 30	12.5 / 25 / 30
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	40	50
Radiated Spurious & Harmonic Emission, dB	-60	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-70	-75
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,764.75</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5300 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
n/a	Separate Data Connector Option	n/a
585-4001-202	Desktop/Mobile Conversion Option	\$139.75
included	Alphanumeric Display Option	-
<b>OPTIONAL OPTIONS</b>		
included	Single Unit Dash Mount Option	-
n/a	Second Programmable Receiver with Separate Speaker	n/a
	Flashing EEPROM	available
	Provision for Field Software Upgrade	available
-2	Secure Encryption Option	\$617.50
included	Emergency Button/Switch Option	-
included	Programmable Button/Switch Option	-
included	Push-to-talk ID Transmission Option	-
See Attached	See Price Pages attached for complete Accessories and Options	

**EF Johnson Company – Phase II****Mobile Analog****High VHF 136-174 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	16	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	2.5
Channel Spacing, kHz	12.5 / 25 / 30	12.5 / 25 / 30
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	25	50
Radiated Spurious & Harmonic Emission, dB	-55	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+3, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-70	-75
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,764.75</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5300 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
-13	Separate Data Connector Option	n/a
585-4001-202	Desktop/Mobile Conversion Option	\$139.75
<b>OPTIONAL OPTIONS</b>		
included	Single Unit Dash Mount Option	-
n/a	Second Programmable Receiver with Separate Speaker	n/a
	Flashing EEPROM	available
	Provision for Field Software Upgrade	available
-2	Secure Encryption Option	\$617.50
included	Emergency Button/Switch Option	-
included	Programmable Button/Switch Option	-
included	Push-to-talk ID Transmission Option	-
included	Alphanumeric Display Option	-
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Mobile Analog****UHF 806-870 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	32	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	1.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	35	30
Radiated Spurious & Harmonic Emission, dB	-60	-70
FM Noise, dB	-35	-45/-38
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-70/-60
Spurious and Image Rejection, dB	-70	-70
Intermodulation, dB	-68	-70
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$848.25</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		9800 Series
Prices are based on price list quoted above dated:		1/4/2002

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
n/a	Separate Data Connector Option	n/a
239-0226-113	Desktop/Mobile Conversion Option	\$357.50
included	Alphanumeric Display Option	
<b>OPTIONAL OPTIONS</b>		
included	Single Unit Dash Mount Option	
n/a	Second Programmable Receiver with Separate Speaker	n/a
	Flashing EEPROM	
	Provision for Field Software Upgrade	available
n/a	Secure Encryption Option	n/a
included	<b>Emergency Button/Switch Option</b>	
included	<b>Programmable Button/Switch Option</b>	
included	<b>Push-to-talk ID Transmission Option</b>	
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Mobile Analog****UHF 806-870 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	16	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	1.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	15	30
Radiated Spurious & Harmonic Emission, dB	-55	-70
FM Noise, dB	-35	-45/-38
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-115	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-70/-60
Spurious and Image Rejection, dB	-70	-70
Intermodulation, dB	-68	-70
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$718.25</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		9800 Series
Prices are based on price list quoted above dated:		1/4/2002

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
n /a	Separate Data Connector Option	n/a
239-0026-113	Desktop/Mobile Conversion Option	\$357.50
<b>OPTIONAL OPTIONS</b>		
included	Single Unit Dash Mount Option	
n/a	Second Programmable Receiver with Separate Speaker	n/a
	Flashing EEPROM	available
	Provision for Field Software Upgrade	available
n/a	Secure Encryption Option	n/a
included	<b>Emergency Button/Switch Option</b>	
included	<b>Programmable Button/Switch Option</b>	
included	<b>Push-to-talk ID Transmission Option</b>	
included	<b>Alphanumeric Display Option</b>	
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Digital****High VHF 136-174 Quality Category A**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	160	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	± 2.0
Channel Spacing, kHz	12.5 / 25 / 30	12.5 / 25 / 30
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/5 selectable (Low/High)	1/5 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-70	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	2	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-75/-67	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-75	-78
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	2	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-119	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,762.80</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
589-0015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	



**EF Johnson Company – Phase II****Portable Digital****High VHF 136-174 Quality Category B**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	48	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	± 2.0
Channel Spacing, kHz	12.5 / 25 / 30	12.5 / 25 / 30
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/5 selectable (Low/High)	1/5 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-70	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	2	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-75/-67	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-75	-78
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	2	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-119	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,762.80</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
589-0015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Digital  
High VHF 136-174 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	14	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	± 2.0
Channel Spacing, kHz	12.5 / 25 / 30	12.5 / 25 / 30
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/5 selectable (Low/High)	1/5 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-60	-70
FM Noise, dB	-43	-45
Audio Distortion, % maximum	3	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-60	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-70	-78
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-116	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,762.80</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
included	Emergency Button Option	
included	Position Rotary Channel/Mode Select Switch Option	
included	Low Battery Alert Tone Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric Display Option	
included	Adaptive Transmitter Power Control Option	
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
589-0015-058	External Speaker/Microphone Option	\$84.50
<b>OPTIONAL OPTIONS</b>		
n/a	RF Power Amplifiers Option	n/a
n/a	Paging Decoder Option	n/a
n/a	Vehicular Charger/Console Option	n/a

Additional Item Request

**EF Johnson Company – Phase II****Portable Digital  
High VHF 136-174 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	2	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	± 2.0
Channel Spacing, kHz	12.5 / 25 / 30	12.5 / 25 / 30
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/5 selectable (Low/High)	1/5 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-57	-70
FM Noise, dB	-40	-45
Audio Distortion, % maximum	5	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-60	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-60	-78
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-116	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,762.80</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
included	Emergency Button Option	-
included	Position Rotary Channel/Mode Select Switch Option	-
included	Low Battery Alert Tone Option	-
included	Programmable Button Option	-
included	Push-to-talk ID Transmission Option	-
included	Alphanumeric Display Option	-
included	Adaptive Transmitter Power Control Option	-
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
589-0015-058	External Speaker/Microphone Option	\$84.50
<b>OPTIONAL OPTIONS</b>		
n/a	RF Power Amplifiers Option	n/a
n/a	Paging Decoder Option	n/a
n/a	Vehicular Charger/Console Option	n/a

Additional Item Request

**EF Johnson Company – Phase II****Portable Digital  
UHF 450-470 Quality Category A**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	160	256
Operational Bandwidth/Maximum Frequency Separation, MHz	20	62
Frequency Stability (-30 °C to + 60 °C), PPM	2	± 2.0
Channel Spacing, kHz	12.5/20/25	12.5 / 25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/4 selectable (Low/High)	1/4 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-70	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	2	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-75/-68	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-75	-77
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	2	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-119	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,754.40</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
5890015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Digital  
UHF 450-470 Quality Category B**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	40	256
Operational Bandwidth/Maximum Frequency Separation, MHz	20	62
Frequency Stability (-30 °C to + 60 °C), PPM	2	± 2.0
Channel Spacing, kHz	12.5/20/25	12.5 / 25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/4 selectable (Low/High)	1/4 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-70	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	2	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-75/-68	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-75	-77
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	2	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-119	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,754.40</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ*	\$97.50
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
589-0015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Digital  
UHF 450-470 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	14	256
Operational Bandwidth/Maximum Frequency Separation, MHz	20	62
Frequency Stability (-30 °C to + 60 °C), PPM	5	± 2.0
Channel Spacing, kHz	12.5/20/25	12.5 / 25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/4 selectable (Low/High)	1/4 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-60	-70
FM Noise, dB	-43	-45
Audio Distortion, % maximum	5	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-70	-77
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-116	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,754.40</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
included	Emergency Button Option	
included	Position Rotary Channel/Mode Select Switch Option	
included	Low Battery Alert Tone Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric Display Option	
included	Adaptive Transmitter Power Control Option	
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
589-0015-0058	External Speaker/Microphone Option	\$84.50
<b>OPTIONAL OPTIONS</b>		
n/a	RF Power Amplifiers Option	n/a
n/a	Paging Decoder Option	n/a
n/a	Vehicular Charger/Console Option	n/a

Additional Item Request

**EF Johnson Company – Phase II****Portable Digital  
UHF 450-470 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	2	256
Operational Bandwidth/Maximum Frequency Separation, MHz	20	62
Frequency Stability (-30 °C to + 60 °C), PPM	5	± 2.0
Channel Spacing, kHz	12.5/20/25	12.5 / 25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/4 selectable (Low/High)	1/4 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-60	-70
FM Noise, dB	-40	-45
Audio Distortion, % maximum	5	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-70	-77
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-116	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,754.40</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
included	Emergency Button Option	
included	Position Rotary Channel/Mode Select Switch Option	
included	Low Battery Alert Tone Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric Display Option	
included	Adaptive Transmitter Power Control Option	
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
589-0015-058	External Speaker/Microphone Option	\$84.50
<b>OPTIONAL OPTIONS</b>		
n/a	RF Power Amplifiers Option	n/a
n/a	Paging Decoder Option	n/a
n/a	Vehicular Charger/Console Option	n/a

Additional Item Request

**EF Johnson Company – Phase II****Portable Digital  
UHF 806-870 Quality Category A**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	160	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	1.5	± 1.5
Channel Spacing, kHz	12.5/25	12.5/25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/3 selectable (Low/High)	1/3 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-60	-60
FM Noise, dB	-40	-45
Audio Distortion, % maximum	2	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-75/-63	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-74	-74
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	2	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-119	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,754.40</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
589-0015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	



**EF Johnson Company – Phase II****Portable Digital  
UHF 806-870 Quality Category B**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	48	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	1.5	± 1.5
Channel Spacing, kHz	12.5/25	12.5/25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/3 selectable (Low/High)	1/3 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-60	-60
FM Noise, dB	-40	-45
Audio Distortion, % maximum	2	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-75/-63	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-74	-74
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	2	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-119	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,754.40</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ*	\$97.50
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
589-0015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Digital  
UHF 806-870 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	14	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	± 1.5
Channel Spacing, kHz	12.5/25	12.5/25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/3 selectable (Low/High)	1/3 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-45	-60
FM Noise, dB	-40	-45
Audio Distortion, % maximum	5	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-70	-74
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-116	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,754.40</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
included	Emergency Button Option	
included	Position Rotary Channel/Mode Select Switch Option	
included	Low Battery Alert Tone Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric Display Option	
included	Adaptive Transmitter Power Control Option	
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
589-0015-058	External Speaker/Microphone Option	\$84.50
<b>OPTIONAL OPTIONS</b>		
n/a	RF Power Amplifiers Option	n/a
n/a	Paging Decoder Option	n/a
n/a	Vehicular Charger/Console Option	n/a

Additional Item Request

**EF Johnson Company – Phase II****Portable Digital  
UHF 806-870 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	2	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	± 1.5
Channel Spacing, kHz	12.5/25	12.5/25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/3 selectable (Low/High)	1/3 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-45	-60
FM Noise, dB	-40	-45
Audio Distortion, % maximum	5	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-60/-55	-75
Spurious and Image Rejection, dB	-65	-75
Intermodulation, dB	-65	-74
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-116	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,754.90</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
included	Emergency Button Option	-
included	Position Rotary Channel/Mode Select Switch Option	-
included	Low Battery Alert Tone Option	-
included	Programmable Button Option	-
included	Push-to-talk ID Transmission Option	-
included	Alphanumeric Display Option	-
included	Adaptive Transmitter Power Control Option	-
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	
589-0015-058	External Speaker/Microphone Option	
<b>OPTIONAL OPTIONS</b>		
n/a	RF Power Amplifiers Option	n/a
n/a	Paging Decoder Option	n/a
n/a	Vehicular Charger/Console Option	n/a

Additional Item Request

**EF Johnson Company – Phase II****Desktop Digital****High VHF 136-174 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	16	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	5	2.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25 / 30
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	25	100
Radiated Spurious & Harmonic Emission, dB	-55	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-75/-65	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-70	-75
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-116	-116
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$2,190.50</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5300 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>OPTIONAL OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Desktop Digital****UHF 806-870 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	32	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	1.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	35	35
Radiated Spurious & Harmonic Emission, dB	-60	-60
FM Noise, dB	-35	-45
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-60	-75
Spurious and Image Rejection, dB	-70	-73
Intermodulation, dB	-68	-75
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-116	-116
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$2,190.50</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5300 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>OPTIONAL OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Desktop Digital****UHF 806-870 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	16	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	1.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	15	35
Radiated Spurious & Harmonic Emission, dB	-55	-60
FM Noise, dB	-35	-45
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-115	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-65/-60	-75
Spurious and Image Rejection, dB	-70	-73
Intermodulation, dB	-65	-75
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-115	-116
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$2,190.50</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5300 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Mobile Digital****High VHF 136-174 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	32	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	5	2.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25 / 30
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	40	50
Radiated Spurious & Harmonic Emission, dB	-70	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-70	-75
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-116	-116
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,901.25</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5300 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
n/a	Separate Data Connector Option	n/a
585-4001-202	Desktop/Mobile Conversion Option	\$139.75
included	Emergency Button Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric display Option	
<b>OPTIONAL OPTIONS</b>		
included	Single Unit Dash Mount Option	
n/a	Second Programmable Receiver with Separate Speaker	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Mobile Digital****High VHF 136-174 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	16	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	5	2.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25 / 30
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	25	50
Radiated Spurious & Harmonic Emission, dB	-55	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-70	-75
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-116	-116
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,901.25</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5300 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
n/a	Separate Data Connector Option	n/a
585-4001-202	Desktop/Mobile Conversion Option	\$139.75
included	Emergency Button Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric display Option	
<b>OPTIONAL OPTIONS</b>		
included	Single Unit Dash Mount Option	
n/a	Second Programmable Receiver with Separate Speaker	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	



**EF Johnson Company – Phase II****Mobile Digital****UHF 806-870 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	32	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	1.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	35	35
Radiated Spurious & Harmonic Emission, dB	-60	-60
FM Noise, dB	-35	-45
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-115	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-73
Intermodulation, dB	-68	-75
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-115	-116
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,901.25</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5300 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
n/a	Separate Data Connector Option	n/a
585-4001-202	Desktop/Mobile Conversion Option	\$139.75
included	Emergency Button Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric display Option	
<b>OPTIONAL OPTIONS</b>		
included	Single Unit Dash Mount Option	
n/a	Second Programmable Receiver with Separate Speaker	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Mobile Digital****UHF 806-870 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	16	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	1.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	15	35
Radiated Spurious & Harmonic Emission, dB	-55	-60
FM Noise, dB	-35	-45
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-115	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-73
Intermodulation, dB	-68	-75
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-115	-116
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,901.25</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5300 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
n/a	Separate Data Connector Option	n/a
585-4001-202	Desktop/Mobile Conversion Option	\$139.75
included	Emergency Button Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric display Option	
<b>OPTIONAL OPTIONS</b>		
included	Single Unit Dash Mount Option	
n/a	Second Programmable Receiver with Separate Speaker	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Mobile Trunked Digital  
High VHF 136-174 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	32	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	5	2.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25 / 30
RF Input/Output Impedance, Ohms	50	50
APCO P-25 TRUNKED STANDARDS		
<b>TRANSMITTER</b>		
RF Power Output, Watts	40	50
Radiated Spurious & Harmonic Emission, dB	-70	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-70	-75
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-116	-116
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$2,158.65</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5300 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
n/a	Separate Data Connector Option	n/a
585-4001-202	Desktop/Mobile Conversion Option	\$139.75
included	Emergency Button Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric display Option	
<b>OPTIONAL OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
included	Single Unit Dash Mount Option	
n/a	Second Programmable Receiver with Separate Speaker	n/a

**EF Johnson Company – Phase II****Mobile Trunked Digital  
High VHF 136-174 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	16	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	5	2.5
Number of Channels/Modes/Personalities	12.5 / 25	12.5 / 25 / 30
RF Input/Output Impedance, Ohms	50	50
<b>APCO P-25 TRUNKED STANDARDS</b>		
<b>TRANSMITTER</b>		
RF Power Output, Watts	25	50
Radiated Spurious & Harmonic Emission, dB	-55	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-70	-75
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-116	-116
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$2,158.65</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5300 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
n/a	Separate Data Connector Option	n/a
585-4001-202	Desktop/Mobile Conversion Option	\$139.75
included	Emergency Button Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric display Option	
<b>OPTIONAL OPTIONS</b>		
included	Single Unit Dash Mount Option	
n/a	Second Programmable Receiver with Separate Speaker	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Mobile Trunked Digital  
UHF 806-870 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	32	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	1.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25
RF Input/Output Impedance, Ohms	50	50
APCO P-25 TRUNKED STANDARDS		
<b>TRANSMITTER</b>		
RF Power Output, Watts	35	35
Radiated Spurious & Harmonic Emission, dB	-60	-60
FM Noise, dB	-35	-45
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-115	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-73
Intermodulation, dB	-68	-75
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-115	-116
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$2,158.65</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5300 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
n/a	Separate Data Connector Option	n/a
585-4001-202	Desktop/Mobile Conversion Option	\$139.75
included	Emergency Button Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric display Option	
<b>OPTIONAL OPTIONS</b>		
included	Single Unit Dash Mount Option	
n/a	Second Programmable Receiver with Separate Speaker	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Mobile Trunked Digital  
UHF 806-870 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	16	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	1.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25
RF Input/Output Impedance, Ohms	50	50
APCO P-25 TRUNKED STANDARDS		
<b>TRANSMITTER</b>		
RF Power Output, Watts	15	35
Radiated Spurious & Harmonic Emission, dB	-55	-60
FM Noise, dB	-35	-45
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-115	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-73
Intermodulation, dB	-68	-75
Speaker Audio Output, watts	3	12
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-115	-116
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$2,158.65</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5300 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
n/a	Sewparate Data Connector Option	n/a
585-4001-202	Desktop/Mobile Conversion Option	\$139.75
included	Emergency Button Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric display Option	
<b>OPTIONAL OPTIONS</b>		
included	Single Unit Dash Mount Option	
n/a	Second Programmable Receiver with Separate Speaker	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Trunked Digital  
High VHF 136-174 Quality Category B**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	48	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	± 2.0
Channel Spacing, kHz	12.5 / 25 / 30	12.5 / 25 / 30
APCO P-25 TRUNKED STANDARDS		
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/5 selectable (Low/High)	1/5 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-70	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	2	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-75/-70	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-75	-78
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	2	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-119	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,732.90</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ*	\$97.50
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
589-0015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Trunked Digital  
High VHF 136-174 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	14	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	± 2.0
Channel Spacing, kHz	12.5 / 25 / 30	12.5 / 25 / 30
APCO P-25 TRUNKED STANDARDS		
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/5 selectable (Low/High)	1/5 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-60	-70
FM Noise, dB	-43	-45
Audio Distortion, % maximum	3	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-60	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-70	-78
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-116	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,732.90</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003



<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
included	Emergency Button Option	
included	Position Rotary Channel/Mode Select Switch Option	
included	Low Battery Alert Tone Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric Display Option	
included	Adaptive Transmitter Power Control Option	
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
589-0015-058	External Speaker/Microphone Option	\$84.50
<b>OPTIONAL OPTIONS</b>		
n/a	RF Power Amplifiers Option	n/a
n/a	Paging Decoder Option	n/a
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Trunked Digital  
High VHF 136-174 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	2	256
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	± 2.0
Channel Spacing, kHz	12.5 / 25 / 30	12.5 / 25 / 30
APCO P-25 TRUNKED STANDARDS		
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/5 selectable (Low/High)	1/5 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-57	-70
FM Noise, dB	-40	-45
Audio Distortion, % maximum	5	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-60	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-60	-78
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-116	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,732.90</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
included	Emergency Button Option	
included	Position Rotary Channel/Mode Select Switch Option	
included	Low Battery Alert Tone Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric Display Option	
included	Adaptive Transmitter Power Control Option	
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
589-0015-058	External Speaker/Microphone Option	\$84.50
<b>OPTIONAL OPTIONS</b>		
n/a	RF Power Amplifiers Option	n/a
n/a	Paging Decoder Option	n/a
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Trunked Digital  
UHF 450-470 Quality Category A**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	160	256
Operational Bandwidth/Maximum Frequency Separation, MHz	20	62
Frequency Stability (-30 °C to + 60 °C), PPM	2	± 2.0
Channel Spacing, kHz	12.5/20/25	12.5 / 25
APCO P-25 TRUNKED STANDARDS		
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/4 selectable (Low/High)	1/4 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-70	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	2	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-75	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-75	-77
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	2	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-119	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,722.50</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ*	\$97.50
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
589-0015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Trunked Digital  
UHF 450-470 Quality Category B**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	40	256
Operational Bandwidth/Maximum Frequency Separation, MHz	20	62
Frequency Stability (-30 °C to + 60 °C), PPM	2	± 2.0
Channel Spacing, kHz	12.5/20/25	12.5 / 25
APCO P-25 TRUNKED STANDARDS		
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/4 selectable (Low/High)	1/4 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-70	-70
FM Noise, dB	-45	-45
Audio Distortion, % maximum	2	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-75/-68	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-75	-77
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	2	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-119	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,722.50</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
589-0015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages attached for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Trunked Digital  
UHF 450-470 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	14	256
Operational Bandwidth/Maximum Frequency Separation, MHz	20	62
Frequency Stability (-30 °C to + 60 °C), PPM	5	± 2.0
Channel Spacing, kHz	12.5/20/25	12.5 / 25
APCO P-25 TRUNKED STANDARDS		
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/4 selectable (Low/High)	1/4 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-60	-70
FM Noise, dB	-43	-45
Audio Distortion, % maximum	5	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-70	-77
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-116	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,722.50</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
included	Emergency Button Option	
included	Position Rotary Channel/Mode Select Switch Option	
included	Low Battery Alert Tone Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric Display Option	
included	Adaptive Transmitter Power Control Option	
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
589-0015-058	External Speaker/Microphone Option	\$84.50
<b>OPTIONAL OPTIONS</b>		
n/a	RF Power Amplifiers Option	n/a
n/a	Paging Decoder Option	n/a
n/a	Vehicular Charger/Console Option	n/a

**EF Johnson Company – Phase II****Portable Trunked Digital  
UHF 450-470 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	2	256
Operational Bandwidth/Maximum Frequency Separation, MHz	20	62
Frequency Stability (-30 °C to + 60 °C), PPM	5	± 2.0
Channel Spacing, kHz	12.5/20/25	12.5 / 25
APCO P-25 TRUNKED STANDARDS		
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/4 selectable (Low/High)	1/4 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-60	-70
FM Noise, dB	-40	-45
Audio Distortion, % maximum	5	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-70	-77
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-116	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,722.50</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003



<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
included	Emergency Button Option	
included	Position Rotary Channel/Mode Select Switch Option	
included	Low Battery Alert Tone Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric Display Option	
included	Adaptive Transmitter Power Control Option	
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
589-0015-058	External Speaker/Microphone Option	\$84.50
<b>OPTIONAL OPTIONS</b>		
n/a	RF Power Amplifiers Option	n/a
n/a	Paging Decoder Option	n/a
n/a	Vehicular Charger/Console Option	n/a

**EF Johnson Company – Phase II****Portable Trunked Digital  
UHF 806-870 Quality Category B**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	48	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	1.5	± 1.5
Channel Spacing, kHz	12.5/25	12.5/25
APCO P-25 TRUNKED STANDARDS		
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/3 selectable (Low/High)	1/3 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-60	-60
FM Noise, dB	-40	-45
Audio Distortion, % maximum	2	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-119	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-75/-63	-75
Spurious and Image Rejection, dB	-75	-75
Intermodulation, dB	-74	-74
Speaker Audio Output, milliwatts	500	500
Audio Distortion, % maximum	2	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-119	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,722.50</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ*	\$97.50
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
n/a	RF Power Amplifiers Option	n/a
589-0015-058	External Speaker/Microphone Option	\$84.50
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
n/a	Vehicular Charger/Console Option	n/a
<b>See Attached</b>	<b>See Price Pages for complete Accessories and Options</b>	

**EF Johnson Company – Phase II****Portable Trunked Digital  
UHF 806-870 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	14	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	± 1.5
Channel Spacing, kHz	12.5/25	12.5/25
APCO P-25 TRUNKED STANDARDS		
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/3 selectable (Low/High)	1/3 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-45	-60
FM Noise, dB	-40	-45
Audio Distortion, % maximum	5	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-75
Spurious and Image Rejection, dB	-70	-75
Intermodulation, dB	-70	-74
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-116	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,722.50</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-510	Battery Charger/Dual Power Option	\$ 97.50
included	Emergency Button Option	
included	Position Rotary Channel/Mode Select Switch Option	
included	Low Battery Alert Tone Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric Display Option	
included	Adaptive Transmitter Power Control Option	
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
589-0015-058	External Speaker/Microphone Option	\$84.50
<b>OPTIONAL OPTIONS</b>		
n/a	RF Power Amplifiers Option	n/a
n/a	Paging Decoder Option	n/a
n/a	Vehicular Charger/Console Option	n/a

**EF Johnson Company – Phase II****Portable Trunked Digital  
UHF 806-870 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	2	256
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	± 1.5
Channel Spacing, kHz	12.5/25	12.5/25
APCO P-25 TRUNKED STANDARDS		
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/3 selectable (Low/High)	1/3 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-45	-60
FM Noise, dB	-40	-45
Audio Distortion, % maximum	5	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-60/-55	-75
Spurious and Image Rejection, dB	-65	-75
Intermodulation, dB	-65	-74
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-116	-119
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,722.50</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		5100 Series
Prices are based on price list quoted above dated:		6/16/2003

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
250-5100-210	Battery Charger/Dual Power Option	\$97.50
included	Emergency Button Option	
included	Position Rotary Channel/Mode Select Switch Option	
included	Low Battery Alert Tone Option	
included	Programmable Button Option	
included	Push-to-talk ID Transmission Option	
included	Alphanumeric Display Option	
included	Adaptive Transmitter Power Control Option	
51X3	Dual Tone Multi Frequency encoder and Key Pad Option	\$160.55
585-5100-120	Leather Carrying Case Option	\$45.50
589-0015-058	External Speaker/Microphone Option	\$84.50
<b>OPTIONAL OPTIONS</b>		
n/a	RF Power Amplifiers Option	n/a
n/a	Paging Decoder Option	n/a
n/a	Vehicular Charger/Console Option	n/a

**Eltek****Contractor:** [Eltek](#)**Contact:** Ms. Helen Woosley**Alternate Contact:** Mr. Robert Johnson**Phone:** (209) 599-4877

(815) 444-4079

**Fax:** (209) 599-1198

(815) 459-9118

**Email:** [helen.woosley@eltekenergy.com](mailto:helen.woosley@eltekenergy.com)[rob.Johnson@eltekenergy.com](mailto:rob.Johnson@eltekenergy.com)**Internet address:** [www.eltekenergy.com](http://www.eltekenergy.com)**Web catalog address:****Federal ID No.:** 36-4233439**Supplier No.:** 111921**Total Contract worth:** \$500,000,000.00**Payment address:** Eltek Energy, LLC  
LBX 619764  
Chicago, IL 60680-6197**Order placement address:** Eltek Energy, LLC  
115 Erick St  
Crystal Lake, IL 60014-4533**Customer Service:** Ms. Chris Lima**Telephone:** (815) 444-4089**Fax:** (800) 526-2524**Ordering procedures:****Credit card acceptance:** VISA, MasterCard**Minimum orders:****Delivery time:** 30 to 45 days ARO**Payment terms:** Net 30**Shipping destination:** Free on Board (FOB) destination**Freight:** Prepaid and included**Palletization:****Category****Equipment Line items****Link to bid Specifications****Link to Price Sheets****Awarded Phase(s)** Phase I

**Eltek**

CONTRACTOR WAREHOUSE Proposer(s) shall indicate below each warehouse location at which material, equipment or supplies will be stored.

ADDRESS: **Eltek Energy, LLC**  
**115 Erick Street**  
**Crystal Lake, IL 60014-4533**

PHONE: **(800) 447-3484**  
CONTACT: **Robert B. Johnson**  
**Product Manager**

SERVICING: Indicate below the names and addresses of sales representatives and specific territories covered. Proposer's ability to service state agencies including local sales representation may be a factor in the award. Contractor must provide immediate attention to problem areas as they arise regardless of location. Submit an attached letter if necessary.

NAME: Precision Power  
Mr. Dave Cunningham  
ADDRESS: 5801 Silverado Way, Suite J12  
Anchorage, AK 99518  
TERRITORY: Alaska  
PHONE: (907) 561-7797

NAME: Mountain Power & Comm.  
Mr. Mike Rayburn  
ADDRESS: 2727 W. Second Ave.  
Denver, CO 80219  
TERRITORY: Montana, Idaho, Wyoming, Utah,  
Colorado  
PHONE: (303) 935-5901

**FACTORY AUTHORIZED SERVICE:**

Factory authorized service must be available in the destination area. List your service centers including name and address of each.

**All authorized factory service is handled from our North American headquarters.**

FIRM NAME: Eltek Energy, LLC  
ADDRESS: 115 Erick Street  
Crystal Lake, IL 60014-4533



**Eltek – Phase I****Price Sheets**

<b>Req. Item</b>	<b>Comm. Code</b>	<b>Description</b>	<b>Qty</b>	<b>Unit</b>	<b>Percentage off Mfg List Price</b>
1.		Support Services Eltek offers a toll-free 24-hour no charge help line that is available exclusively for customer service assistance. The help line is answered 24 hours a day, seven days a week and 365 days a year.	Hourly	EA	N/C
2.		Installation Services Pricing for installation services is quoted on a job specific basis. Labor rates for installation services are as follows:  1. Transit rate to and from work site 2. Hourly labor rate (7:00 AM to 6:00 PM -Monday thru Friday) 3. Overtime labor rate: (Applies to labor after 6:00 PM Monday thru Friday and Saturdays.) 4. Sunday and Holiday Labor Rate:	Hourly  1 1 1 1	EA  HR HR HR HR	  \$50.00 \$100.00 \$135.00 \$175.00
3.		Repair Services Note: Certain products being proposed have flat repair rates associated with them. They are as follows:  Partial Warranty: - SSD2 Alarm Panel - TwinPack Plus Rectifier - SMPS 1000 Rectifier - AL 175 Controller  Out of Warranty: - SSD2 Alarm Panel - TwinPack Plus Rectifier - SMPS 1000 Rectifier - AL 175 Controller - MCU Controller - Flatpack Rectifier	Hourly	EA	\$ 100.00  \$ 100.00 \$ 200.00 \$ 155.00 \$ 175.00  \$ 300.00 \$ 450.00 \$ 225.00 \$ 250.00 \$ 130.00 \$ 250.00
4.		List other Equipment DC Power Systems, Model Flatpack, TwinPack Plus, MPSU 4000		EA	25%

**Eltek – Phase I**

<b>Req. Item</b>	<b>Comm. Code</b>	<b>Description</b>	<b>Qty</b>	<b>Unit</b>	<b>Percentage off Mfg List Price</b>
5.		<p>Model -Energys VRLA - sealed lead acid-20 yr design</p> <p>Warranty-Warranty is 48 months (full) from data of shipment. Additionally, the batteries contain a 16 year prorated warranty for a total of 20 years or 240 months.</p> <p>(** Note, batteries which shall be shipped from battery manufacturer's warehouse in Sumter, SC 29154, with freight charges prepaid and added to the invoice as a separate line item.)</p>	1	EA	32.5% discount off Eltek Energy's list price
6.		<p>anufacture Energys</p> <p>Model-Energys VRLA-sealed lead acid-10 yr design---</p> <p>Warranty-Warranty is 48 months (full) from date of shipment. Additionally, the batteries contain a six (6) year prorated warranty for a total of 10 years or 120 months.</p> <p>(** Note, batteries which shall be shipped from battery manufacturer's warehouse in North Haven, CT 06473, with freight charges prepaid and added to the invoice as a separate line item.)</p>	1	EA	32.5% discount off list Eltek Energy's list price
7.		<p>Recycle – Disposal Program.</p> <p>Disposal of installed base batteries (Phase 1 products) will be quoted separately and per site. Certification of Distruction shall be included in the cost.</p>			

**Contractor:** General Dynamics**Contact:** Terrell G. Thomas**Alternate Contact:** Al Lopez**Phone:** (480) 441-7032

(480) 441-4246

**Fax:** (480) 441-2515

(480) 441-8864

**Email:** [Terry.Thomas@gdds.com](mailto:Terry.Thomas@gdds.com)[Al.Lopez@gdds.com](mailto:Al.Lopez@gdds.com)**Internet address:** [www.gdds.com](http://www.gdds.com)**Web catalog address:****Federal ID No.:** 54-2051330**Supplier No.:** W1337**Total Contract worth:****Payment address:** General Dynamics  
P.O. Box 845342  
Dallas, TX 75284-5342**Order  
placement  
address:** General Dynamics  
8201 E. McDowell Rd,  
MD6206  
Scottsdale AZ 85257**Customer Service:** Scott Kenwright**Telephone:** (480) 441-3591**Fax:** (480) 441-7196**Ordering procedures:****Credit card acceptance:** VISA, MasterCard, American Express**Minimum orders:****Delivery time:** 60 days ARO**Payment terms:** Net 30**Shipping destination:** Free on Board (FOB) destination**Freight:** Prepaid and included**Palletization:****Category****Equipment Line items****Link to bid Specifications****Link to Price Sheets****Awarded Phase(s)** Phase I

**General Dynamics**

CONTRACTOR WAREHOUSE Proposer(s) shall indicate below each warehouse location at which material, equipment or supplies will be stored.

ADDRESS: General Dynamics Decision Systems  
8201 E. McDowell Rd  
Scottsdale, AZ 85257

PHONE: (480) 441-3591  
 CONTACT: Scott Kenwright

SERVICING: Indicate below the names and addresses of sales representatives and specific territories covered. Proposer's ability to service state agencies including local sales representation may be a factor in the award. Contractor must provide immediate attention to problem areas as they arise regardless of location. Submit an attached letter if necessary.

**Authorized Sales Representatives**

Name	Don Werner	Don Simon
Address	Wallace & Wallace 2600 California Ave, Ste F Monrovia CA 91016	Mountain State Marketing 1714 SW 23 <sup>rd</sup> St San Leandro CA 94579
Telephone	626-305-8800 / Cell 818-429-9925	970-962-9998
Territory Covered	S. California, S. Nevada, Arizona	E. Montana, Wyoming, E. Idaho, Utah, Colorado, New Mexico
Name	Ron Seitz	Ron Serrao
Address	Procomm Marketing 655 Lewelling Blvd #351 San Leandro CA 94579	The Sales Group PO BOX 7289 Hilo, HI 96720-8942
Telephone	510-383-9191	808 966-4478 / Cell 808-987-3613
Email		<a href="mailto:ron@thesalesgroup.com">ron@thesalesgroup.com</a>
Territory Covered	N. California, N. Nevada	Hawaii
Name	Rick Hinthorne	Dana Hanford
Address	The Sales Group 17879 SW Hillside Drive Lake Oswego, OR 97034	The Sales Group 755 Winslow Way E, Suite 203 Bainbridge Island WA 98110
Telephone	503 638-6923/ Cell 503-805-1967	206-842-9076 Work 206-660-7147 Cell
Email	<a href="mailto:rick@thesalesgroup.com">rick@thesalesgroup.com</a>	<a href="mailto:dana@thesalesgroup.com">dana@thesalesgroup.com</a>
Territory Covered	Oregon, S. Washington	N, Washington, W. Montana, N, Idaho, Alaska
Name	Darwin Niss	
Address	Mink Marketing 22976 Greenland Elysian MN 56028	
Telephone	507-420-8643	
Territory Covered	S Dakota, Minnesota	

Additional Item Request

**General Dynamics****FACTORY AUTHORIZED SERVICE:**

Factory authorized service must be available in the destination area. List your service centers including name and address of each.

FIRM NAME:	<b>Motorola Test Equipment Service Center</b>	<b>General Dynamics Decision Systems</b>
ADDRESS:	2216 Galvin Drive	Communications Test Equipment
	Elgin, IL 60123	8201 E. McDowell Road
		Scottsdale, AZ 85252

**SERVICE CENTERS**

General Dynamics Decision Systems Communications Test Equipment has two repair facilities in the United States. Both have been in business for more than 20 years and provide unsurpassed service and rapid turn-around times.

For the R2590 series of communication system analyzers and all other products in use in the state of Arizona:

General Dynamics Decision Systems  
8201 E. McDowell Road  
Scottsdale, AZ 85257  
Phone: 480-441-3182  
Contact: Becky Watts

Factory trained personnel and years of qualifying service:

Cheryl Zuber, 5 years  
George Patterson, 6 years  
Steve Beverly, 4 years  
Kim Smith, 1 year

For all General Dynamics test equipment products excluding the R2590 Series.

Motorola Test Equipment Service Center  
2216 Galvin Drive  
Elgin, Illinois 60123  
Phone: 800-323-6967  
Contact: Harold Kriese

Factory trained personnel and years of qualifying service:

Ray Fude, 25 years	Jim Cogdill, 21 years	Barry Hendrix, 18 years
Ricardo Rivera, 15 years	Mike Wonogas, 2 years	Ron Rychlowksi, 2 years
Harold Kriese, 16 years	Larry Huro, 17 years	Levi Jackson, 7 years
Barbara Brustowicz, 18 years		

**General Dynamics – Phase I**

Category 8 Equipment: P Test Equipment, Analog and Digital

2% From list price

Req. Item	Part # General Dynamics C4 Systems	Description	Qty	Unit	Unit List Price	Total Price
1.		R2670B Project 25 Radio Test Set	1 +	EA	15,631.00	
1.1.		<b>Options For R2670B:</b>	1 +			
	RLN4497A	Smartnet/Smartzone Testing Option	1 +	EA	5,831.00	
	CM714	P25 Trunking Radio Test Option (All Bands)	1 +	EA	1,519.00	
	N/A	Control Channel Logger (Not Available)				
		LSM Basic <i>(Included with CM714)</i>				
		Smartnet/Smartzone 900MHz <i>(Included in the RLN4497A)</i>				
	CM701	Hardware Module	1 +	EA	2,450.00	
	CM707	AES Encryption	1 +	EA	1,225.00	
	CM708	DES, DES-XL Encryption	1 +	EA	1,225.00	
	CM709	DVP-XL Encryption	1 +	EA	1,225.00	
	CM710	DVI-XL Encryption	1 +	EA	1,225.00	
	CM711	Securenet	1 +	EA	1,225.00	
	CM712	VSELP	1 +	EA	1,225.00	
	CM713B	Project 25 Conventional		EA	1,421.00	
	RLN4034A	C-Message Filter with 600 Ohm Meter Load	1 +	EA	490.00	
	RLN4361A	CCITT Filter with 600 Ohm Meter Load	1 +	EA	490.00	
	RLN4484A	Phase Modulation / Demodulation	1 +	EA	681.00	
	RLN4329A	IEEE 488.2 Remote Interface	1 +	EA	583.00	
	TBD	Autotest / Auto align for Motorola Radios				
	RVN5012B	Auto-test - XTS3000/ASTRO SABER	1+	EA	1,960.00	
	RVN5013B	Auto-test - XTS5000	1+	EA	1,960.00	
	RVN5016B	Auto-test - XTS3000/XTS5000/ASTRO SABER	1+	EA	3,724.00	
	RVN5024B	Auto-test - ASTRO SPECTRA	1+	EA	1,960.00	
	RVN5025B	Auto-test - ASTRO SPECTRA PLUS	1+	EA	1,960.00	
	RVN5026B	Auto-test - SPECTRA/SPECTRA PLUS Value Pack	1+	EA	3,724.00	
	RVN5027B	Auto-test Suite - RVN5016 plus RVN5026	1+	EA	7,252.00	
	TBD	Project 25 Phase 2				
		KVL Keyloader Option <i>(Included with the CM713)</i>				
	TBD	LSM Advanced / P25 - 2 Advanced				
		P25 Trunking VHF/UHF/ 700MHz <i>(Included in the CM714)</i>				
1.2.		<b>Extended Warranties For R2670B</b>				
	RLN4501A	3 Year Extended Warranty, Includes 2 Calibrations Total Warranty 3 years	1 +	EA	1,127.00	
	RLN4502A	5 Year Extended Warranty, Includes 4 Calibrations Total Warranty 5 years	1 +	EA	1,936.00	

**General Dynamics – Phase I**

Req. Item	Part # General Dynamics C4 Systems	Description	Qty	Unit	Unit List Price	Total Price
1.3.		<b>Accessories For R2670B</b>				
	6880309F17	Manual, R2670B (Supplied As Standard)	1 +	EA	N/C	
	RLN5237A	Maintenance Manual on CD Rom	1 +	EA	343.00	
	A001	Heavy Duty Transit Case	1 +	EA	583.00	
	A002	Heavy Duty Transit Case with wheels	1 +	EA	858.00	
	1580357B77	Case, Soft Padded Carrying	1 +	EA	171.50	
	5880345B96	RF Detector Probe, 50 Ohm Termination	1 +	EA	285.00	
	RTA4000A	Telescoping Antenna <i>(Supplied As Standard)</i>	1 +	EA	44.00	
	RPX4097A	DC Power Connector	1 +	EA	34.00	
	0982578B01	BNC RF 'T'	1 +	EA	16.00	

The prices added into this section are all at MSRP - added for information purposes only as a comparison.

Req. Item	Part #	Description	Qty	Unit	Unit Price, List price	Total Price
2.		<b>R2670B Communications Service Monitor – USA</b>				
2.1		Com-120C Communications Service Monitor W/ Tracking Generator, 30 kHz if Filter, 110V				
		Com-120C W/ Tracking Generator, 30 kHz if Filter, 220v				
	R2670B	Com-120C W/ Tracking Generator, 30 kHz if Filter, 0.01 Pm OCXO, 110v	1 +	EA	15,950.00	
		Com-120C W/ Tracking Generator, 30 kHz if Filter, 0.01 Pm OCXO, 220V				
		Com-120C W/ Tracking Generator, SSB Receive Filter, 110V <b>(Not Available)</b>				
		Com-120C W/ Tracking Generator, SSB Receive Filter, 220V <b>(Not Available)</b>				
		Com-120C W/ Tracking Generator, SSB Receive, 0.01 PPM OCXO, 110V <b>(Not Available)</b>				
		Com-120C W/ Tracking Generator, SSB Receive, 0.01 PPM OCXO, 220V <b>(Not Available)</b>				
2.1.		Options For R2670B				
	RPN4000A	Internal Rechargeable Battery (External)	1 +	EA	795.00	
		Data Generator/BER Meter <b>(Not Available)</b>				
		RCC Signalling <b>(Not Available)</b>				
		Digital/Analog Signalling				
	RLN4329A	IEEE-488.2	1 +	EA	595.00	
		Clear Channel LTR <b>(Not Available)</b>				

**Contractor:** [Harris Corporation](#)**Page number****Contact:** Laurent Brigdan**Phone:** 206-340-1015**Fax:** 321-674-2590**Email:** [lbrigdan@harris.com](mailto:lbrigdan@harris.com)**Internet address:** [www.harris.com](http://www.harris.com)**Web catalog address:****Federal ID No.:** 34-0276860**Supplier No.:** 34095**Total Contract worth:** \$500,000,000.00**Payment address:** 350 Twin Dolphin Dr.  
Redwood Shores, CA  
94065**Alternate Contact:** Carrie Thomas

650-594-3627

321-674-2715

cthoma14@harris.com

**Customer Service:** Laurent Brigdan**Telephone:** 206-340-1015**Fax:** 321-674-2590**Ordering procedures:****Credit card acceptance:** Visa, MasterCard**Minimum orders:****Delivery time:** days After Receipt of Order (ARO): Aurora: 30 days, Constellation,  
MegaStar, Galaxy, Microstar, TRuepoint: 60 days, SPR Series, TBD**Payment terms:** 0% 30 days**Shipping destination:** Freight on Board (FOB) destination**Freight:** Prepaid and included**Palletization:** N/A**Category** Category 5, Digital Microwave Radios**Equipment Line items****Link to bid Specifications****Awarded Phase(s)** Phase I & II**Contractor:** [Harris Corporation](#)**Page number****Contact:** Laurent Brigdan**Phone:** 206-340-1015**Fax:** 321-674-2590**Email:** [lbrigdan@harris.com](mailto:lbrigdan@harris.com)**Internet address:** [www.harris.com](http://www.harris.com)**Web catalog address:****Federal ID No.:** 34-0276860**Supplier No.:** 34095**Total Contract worth:** \$500,000,000.00**Payment address:** 350 Twin Dolphin Dr.  
Redwood Shores, CA  
94065**Contact:** Laurent Brigdan**Phone:** 206-340-1015**Fax:** 321-674-2590**Email:** [lbrigdan@harris.com](mailto:lbrigdan@harris.com)**Customer Service:** Laurent Brigdan**Telephone:** 206-340-1015

Additional Item Request

**Order placement address:** 350 Twin Dolphin Dr.  
Redwood Shores, CA  
94065**Payment address:** 350 Twin Dolphin Dr.  
Redwood Shores, CA  
94065



**Fax:** 321-674-2590

**Ordering procedures:**

**Credit card acceptance:** Visa, MasterCard

**Minimum orders:**

**Delivery time:** days After Receipt of Order (ARO): Aurora: 30 days, Constellation, MegaStar, Galaxy, Microstar, TRuepoint: 60 days, SPR Series, TBD

**Payment terms:** 0% 30 days

**Shipping destination:** Freight on Board (FOB) destination

**Freight:** Prepaid and included

**Palletization:** N/A

**Category** Category 5, Digital Microwave Radios

**Equipment Line items**

**Link to bid Specifications**

**Awarded Phase(s)** Phase I & II

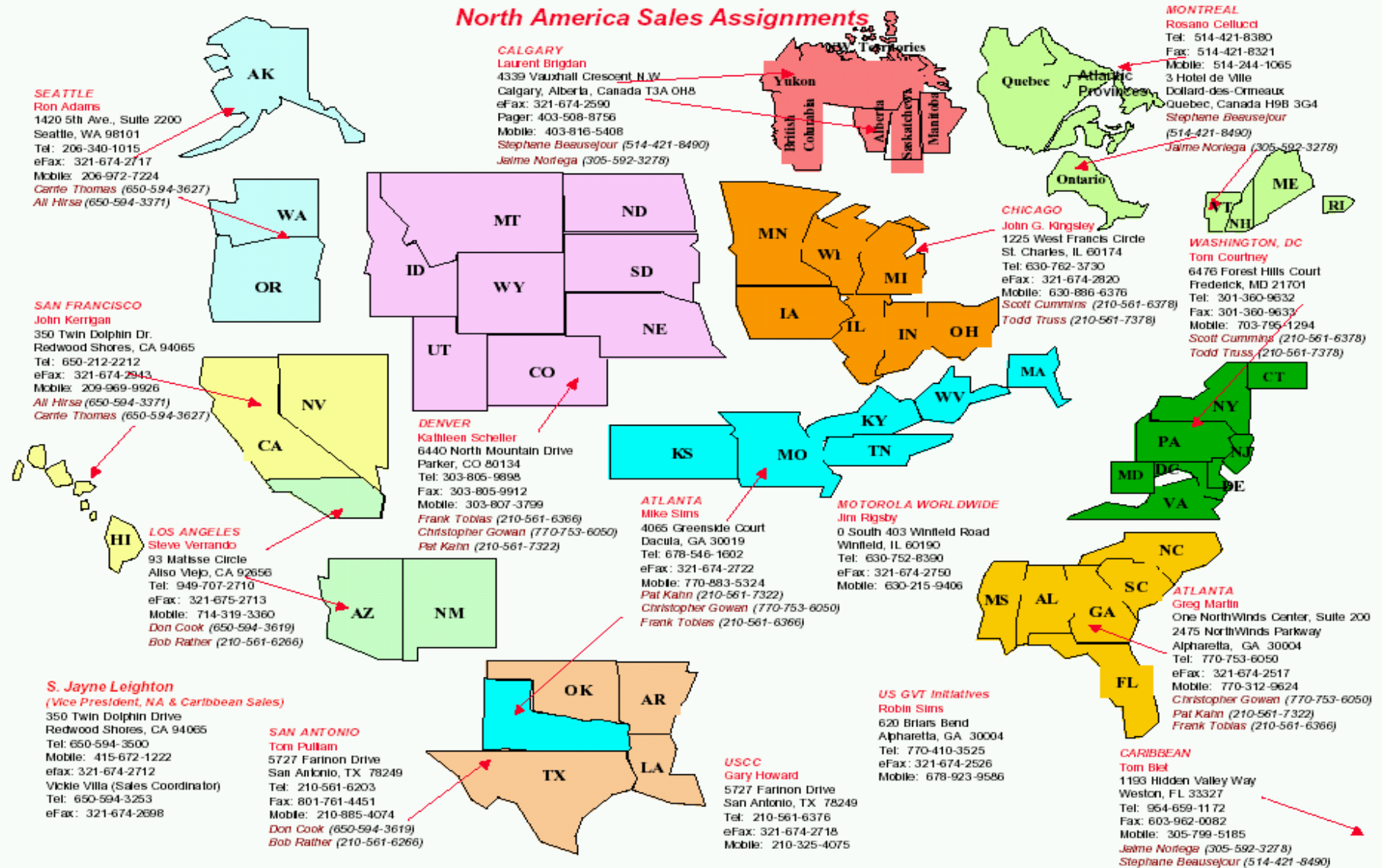
State of Washington - Office of State Procurement Microwave Radio Bid Response Price Sheet			
Optional Items-Technical Services <sup>1</sup>			
Item	Description		Price (Per Price Book)
1.00	Frequency Coordination		
1.10	Frequency Bands-6 and 11 GHz		
1.11	First Frequency Pair		\$1,400.00
1.12	Additional Frequency pairs coordinated at the same time.		\$900.00
1.20	Frequency Bands-10, 18 and 23 GHz		
1.21	First Frequency Pair		\$1,300.00
1.22	Additional Frequency pairs coordinated at the same time.		\$850.00
1.30	Renewal Notices-Required to protect coordinated paths when license filings haven't been submitted.		
1.31	For first path		\$320.00
1.32	For each additional path at the same time		\$70.00
1.40	FCC License Preparation		
1.41	Per site location		\$400.00
1.50	FCC License Submittal Fee		
1.51	New License-per site location		\$480.00

Additional Item Request

1.52	Modification to License-per site location		\$295.00
1.60	Verbal Coordination Expedite		
1.61	For first path		\$850.00
1.62	For each additional path at the same time		\$200.00
2.00	Field Engineering		
2.10	Field Service Enginner (rate per man day)		\$1,200.00
2.20	Field Living Expenses (rate per calender day)		\$152.00
3.00	Installation Services (Per Man Day)		
3.10	EF&I Project Engineering		\$800.00
3.20	Program Management		\$1,126.00
3.30	Field Engineer		\$880.00
3.40	Network Engineering		\$1,100.00
3.50	Application Engineering		\$900.00
3.60	Transmission Engineering		\$1,100.00
3.70	Path Survey (for up to 3 paths; over 3 paths obtain quote)		\$2,700.00
3.80	Field Expenses		\$152.00

	<sup>1</sup> Please see Harris Price Book, Volume II for more details and conditions for above items		

# North America Sales Assignments



12/15/03

**PHASE I**

<b>HARRIS MCD DISCOUNT SCHEDULE FOR WSCA PHASE I INCL. ACCESSORIES</b>			
1	Constellation 6 GHz	8 x T1	59%
2	Constellation 6 GHz	16 x T1	59%
3	Constellation 6 GHz	28 x T1	60%
4	Constellation 6 GHz	OC3	61%
5	Constellation 6 GHz	3 DS3	60%
6	Constellation 10/11 GHz	8 x T1	60%
7	Constellation 10/11 GHz	16 x T1	60%
8	Constellation 11GHz	28 x T1	61%
9	Constellation 11 GHz	OC3	65%
10	Constellation11 GHz	3 DS3	63%
11	MegaStar 155-6 GHz	OC-3	53%
12	MegaStar 155-11 GHz	OC-3	52%
13	MegaStar 155-6 GHz	3 DS3	54%
14	MegaStar 155-11 GHz	3 DS3	52%
(See Constellation above for OC3 and 3 DS3 radios. MegaStar available for system expansions)			
15	MicroStar 18 ext mux	28 x T1	50%
16	MicroStar 18 ext mux	28 x T1	50%
17	MicroStar 18 ext mux	16 x T1	50%
18	MicroStar 18 ext mux	16 x T1	50%
19	TRuepoint 18	28 & 16 x T1	Year 1 @ 50% Year 2 & 3 @ 59%
20	MicroStar 23 ext mux	28 x T1	44%
21	MicroStar 23 ext mux	28 x T1	44%
22	MicroStar 23 ext mux	16 x T1	44%
23	MicroStar 23 ext mux	16 x T1	44%
24	TRuepoint 23	28 & 16 x T1	Year 1 @ 44% Year 2 & 3 @ 53%
24	Galaxy 18 GHz	OC3	37%
25	Galaxy 23 GHz	OC3	36%
26	TRuepoint 18 GHz	OC3	Year 1 @ 37% Year 2 & 3 @ 46%
27	TRuepoint 23 GHz	OC3	Year 1 @ 36% Year 2 & 3 @ 45%
28	All other TRuepoint Hi-caps, frequencies, & accessories		Year 1 @ 37% Year 2 & 3 @ 46%
29	Aurora 5.8, unprotected	1 X T1	47%
30	Aurora 5.8, unprotected	2 X T1	56%
31	StarView	NMS	10%
32	FarScan for Windows	SW	NO CHARGE
33	CAU remote alarm unit	32 alarms	\$1,920
34	MicroStar order wire		\$225
35	Constellation order wire		\$625

36	MegaStar order wire		\$625
37	Rack and fuse panel*		\$500
38	M13 mux		\$2,519
39	OEM equipment		Per price list attached
	** Space Diversity additional cost		



Frequency Band: 6 GHz					Radio Configuration: Hot Standby - Terminal					Date: 7/24/03
Capacity in T1s	Model Number Constellation	Radio List Price	Radio Discount	Mux Price (No Discount)	MW Equip (Radio w/ DS1 Mux) Price First Year <sup>3</sup>	MW Equip (Radio w/ DS1 Mux) Price Second/Third Year <sup>3</sup> , 6	No DS1 Multiplex <sup>4</sup> (per Section 1.22 (4) of Phase 2 Tech Specs)	Orderwire Price	Alarm and Control Price	Total Line Price, 1st Year
<b>DS34</b>	RC306EE STPZ#B000B	\$58,000.00	58.00%		\$24,360.00	\$19,140.00	\$24,360.00	\$625.00	included	\$24,985.00
<b>3xDS34</b>	RY106EG TPV##0000B	\$70,725.00	60.00%		\$28,290.00	\$21,924.75	\$28,290.00	\$625.00	included	\$28,915.00
<b>2xDS3 + 28DS14</b>	RY106EG TPW##0000B	\$77,725.00	63.00%		\$28,758.25	2nd Year: \$28,758.25 3rd Year: \$21,763.00	\$28,758.25	\$625.00	included	\$29,383.25
<b>4xDS34</b>	RY106EG TPY#P0000B	\$83,500.00	69.00%		\$25,885.00	2nd Year: \$25,885.00 3rd Year: \$18,370.00	\$25,885.00	\$625.00	included	\$26,510.00
<b>3xDS3 + 28DS14</b>	RY106EG TPZ##0000B	\$90,500.00	71.00%		\$26,245.00	2nd Year: \$26,245.00 3rd year: \$18,100.00	\$26,245.00	\$625.00	included	\$26,870.00

## Notes:

<sup>1</sup>Power shall be measured at top of flange in dBm.<sup>2</sup>Based on 10<sup>-3</sup> Bit Error Rate receiver sensitivity.<sup>3</sup>Prices include a fully functional assembly with all standard industry interfaces for the signal payload, power connections, alarm I/O connections and any required data

Additional Item Request

or service channel interfaces.

<sup>4</sup>This space is reserved for vendors to add either equipment configurations or additional options.

<sup>5</sup>Provide physical interfaces for radio bid, ie Fast Ethernet, T1, DS3 etc

<sup>6</sup>Second (2nd) year discounts do not apply to 2xDS3+28DS1, 4xDS3 and 3xDS3+28DS1 capacity radios. The quantity break discounts are only valid in year three (3).

**This is an example of Phase I pricing**

**Phase II**  
**Harris Corporation**

Manufacturer	Freq. Band	Capacity in T1's	Part number	Total Price
<b>Hot Standby - Terminal – 6 GHz</b>				
Harris	6 GHz	28T	RC306EESTPH#B000B	\$26,425
Harris	6 GHz	SONET-OC3	RY106EGTPB##000B	\$27,544
<b>Non-Hot Standby - Terminal – 6 GHz</b>				
Harris	6 GHz	28T	RC306AESTPH#B000B	\$15,145
Harris	6 GHz	SONET-OC3	RY106AGTBP##000B	\$16,205
<b>Hot Standby - Terminal – 11 GHz</b>				
Harris	11 GHz	28T	RC311EESTPH#B030B	\$27,340
Harris	11 GHz	SONET-OC3	RY111EGTPB##1030b	\$28,118
<b>Non-Hot Standby - Terminal – 11 GHz</b>				
Harris	11 GHz	16T	RC311ACSTPE#B030B	\$14,538
Harris	11 GHz	28T	RC311AESTPH#B030B	\$15,562
Harris	11 GHz	SONET-OC3	RY111AGTPB##1030B	\$16,428
<b>Hot Standby - Terminal – 18 GHz</b>				
Harris	18 GHz	SONET-OC3	Galaxy RX118GZM209D#22	\$24,570
Harris	18 GHz	SONET OC3	Year 1 TRuepoint HT152##DE2SS##00, ST15PPNP181####1A	\$24,570
Harris	18 GHz	SONET OC3	Year 2 & 3 TRuepoint HT152##DE2SS##00, ST15PPNP181####1A	\$21,060
<b>Non-Hot Standby – Terminal – 18 GHz</b>				
Harris	18 GHz	28T	Microstar M/H RK118AZS####0B001 + M13 MUX	\$7,737
Harris	18 GHz	28T	Year 1 TRuepoint HT152##AA2SS##00, ST15NNNN070#1##1A	\$7,737
Harris	18 GHz	28T	Year 2 & 3 TRuepoint HT152##AA2SS##00, ST15NNNN070#1##1A	\$6,671
Harris	18 GHz	SONET-OC3	Galaxy RX118AZM209D#22	\$13,230
Harris	18 GHz	SONET OC3	Year 1 TRuepoint HT152##DA2SS##00, ST15NNNN181####1A	\$13,230
Harris	18 GHz	SONET OC3	Year 2 & 3 TRuepoint HT152##DA2SS##00, ST15NNNN181####1A	\$11,340
<b>Non-Hot Standby - Terminal – 23 GHz</b>				
Harris	23 GHz	28T	Microstar M RF223Ezs####0B41#B + M13 MUX	\$8,616
Harris	23 GHz	28T	Year 1 TRuepoint HT152##AA2SS##00, ST15NNNN070#1##1A	\$8,616
Harris	23 GHz	28T	Year 2 & 3 TRuepoint HT152##AA2SS##00, ST15NNNN070#1##1A	\$7,523
Harris	23 GHz	SONET-OC3	Galaxy RB123ADS##56B40A	\$15,168
Harris	23 GHz	SONET-OC3	Year 1 TRuepoint HT152##DA2SS##00, ST15NNNN181####1A	\$15,168
Harris	23 GHz	SONET-OC3	Year 2 & 3 TRuepoint HT152##DA2SS##00, ST15NNNN181####1A	\$13,035

**Phase II**  
**Harris Corporation**

<b>Hot Standby – Repeater – 6 GHz</b>				
Harris	6 GHz	28T	RC306ECSAPEEB000B RC306ECSB####000A	\$48,975
Harris	6 GHz	SONET-OC3	RY106EGTPB##0000B RY106EGCPB##0000a	\$55,090
<b>Non-Hot Standby – Repeater – 6 GHz</b>				
Harris	6 GHz	28T	RC306ACSAPEEB000B RC306ACSB####000A	\$26,765
<b>Hot Standby – Repeater – 11 GHz</b>				
Harris	11GHz	16T	RC311ECSAPCCB030B RC311ECSB####030A	\$49,521
Harris	11GHz	28T	RC311ACSAPEEB030B RC311ACSB####030A	\$50,886
Harris	11GHz	SONET-OC3	RY111EGTPB#P0030b RY111EGCPB#P0030A	\$56,235
<b>Non-Hot Standby – Repeater – 11 GHz</b>				
Harris	11GHz	16T	RC311ACSAPEEB030B RC311ACSB####030A	\$26,307
Harris	11GHz	28T	RC311ACSAPEEB030B RC311ACSB####030A	\$27,330
Harris	11GHz	SONET-OC3	RY111AGTPB#P0030B RY111AGCPB#PB#0030a	\$32,855
<b>Hot Standby – Repeater – 18 GHz</b>				
Harris	18 GHz	SONET-OC3	Galaxy RX118GZM209D#20 RX118GZM209D#20	\$49,140
Harris	18 GHz	SONET-OC3	Year 1 TRuepoint QTY 2 - HT152##DE2SS##00, ST15PPNP181####1A	\$49,140
Harris	18 GHz	SONET-OC3	Year 2 & 3 TRuepoint QTY 2 - HT152##DE2SS##00, ST15PPNP181####1A	\$42,120
<b>Non-Hot Standby – Repeater – 18 GHz</b>				
Harris	18 GHz	28T	Microstar M/H RK118AZS####0B001 RK118AZS####0B001 + M13 MUX	\$13,887
Harris	18 GHz	28T	Year 1 TRuepoint QTY 2 - HT152##AA2SS##00, ST15NNNN070#1##1A	\$13,887
Harris	18 GHz	28T	Year 2 & 3 TRuepoint QTY 2 - HT152##AA2SS##00, ST15NNNN070#1##1A	\$11,754
Harris	18 GHz	SONET-OC3	Galaxy RX118AZM209D#22 RX118AZM209D#22	\$26,460
Harris	18 GHz	SONET-OC3	Year 1 TRuepoint QTY 2 - HT152##DA2SS##00, ST15NNNN181####1A	\$26,460
Harris	18 GHz	SONET-OC3	Year 2 & 3 TRuepoint QTY 2 - HT152##DA2SS##00, ST15NNNN181####1A	\$22,680
<b>Non-Hot Standby - Repeater – 23 GHz</b>				
Harris	23 GHz	28T	Microstar M RF223AZS####0B41#B RF223AZS####0B41#B + M13 MUX	\$15,645
Harris	23 GHz	28T	Year 1 TRuepoint QTY 2 - HT152##AA2SS##00, ST15NNNN070#1##1A	\$15,645
Harris	23 GHz	28T	Year 2 & 3 TRuepoint QTY 2 - HT152##AA2SS##00, ST15NNNN070#1##1A	\$13,458
Harris	23 GHz	SONET-OC3	Galaxy RB123ADS##56B40A RB123ADS##56B40A	\$30,336
Harris	23 GHz	SONET-OC3	Year 1 TRuepoint QTY 2 - HT152##DA2SS##00, ST15NNNN181####1A	\$30,336
Harris	23 GHz	SONET-OC3	Year 2 & 3 TRuepoint QTY 2 - HT152##DA2SS##00, ST15NNNN181####1A	\$26,070

Icom American Inc.

**CONTRACTOR INFORMATION****Contractor:****Icom America, Inc.****Page number****Contact:**

Etsi Tamura

**Alternate Contact:** Bob Shropshire**Phone:**

425-450 6092

425-450-6033

**Fax:**

425-454-1509

425-450-6065

**Email:**[wsca@icomamerica.com](mailto:wsca@icomamerica.com) [bobshropshire@icomamerica.com](mailto:bobshropshire@icomamerica.com)**Internet address:**<http://www.icomamerica.com>**Phase I - Product Information and Pricing:**[http://www.ga.wa.gov/pca/contract/02702-ICOM-Phase\\_I-052605.pdf](http://www.ga.wa.gov/pca/contract/02702-ICOM-Phase_I-052605.pdf)**Phase II – Product Information and Pricing:**[http://www.ga.wa.gov/pca/contract/02702-ICOM-Phase\\_II-052605.pdf](http://www.ga.wa.gov/pca/contract/02702-ICOM-Phase_II-052605.pdf)**Federal ID No.:**

91-1083924

**Supplier No.:**

32709

**Total Contract worth:**

\$500,000,000.00

**Payment address:**ICOM America, Inc.  
Dept. #407  
PO Box 34935  
Seattle, WA 98124**Order placement address:**ICOM America, Inc.  
2380 116<sup>th</sup> Avenue NE  
Bellevue, WA 98004**Customer Service:**

Etsi Tamura

**Telephone:**

425-450-6092

**Fax:**

425-454-1509

**Ordering procedures:****Credit card acceptance:**

Visa, MasterCard, American Express

**Minimum orders:****Delivery time:**

30-60 days After Receipt of Order (ARO)

**Payment terms:**

3% - 30 days net 45

**Shipping destination:**

Freight on Board (FOB) destination

**Freight:**

Prepaid and included

**Palletization:**

N/A

**Category**

Category 2 Aircraft Band Radios

**Equipment Line items****Support Services**

\$71.25 per hour

**Repair Services**

\$71.25 per hour

**Installation Services**

\$33.25 per radio

**Programming Services**

\$33.25 per radio

**Link to bid Specifications**<http://www.ga.wa.gov/pca/bids/02702-Phase2-Category2.doc>**Awarded Phase(s)**

Phase I &amp; II

**ICOM – Phase I**

**Phase I** - Equipment from our 4 divisions (Amateur, Avionics, Marine and Land Mobile) to WSCA and Non-WSCA states when buying up grading Icom equipment.

The discounts from List price for the four divisions are as follows:

Land Mobile	36% off List price
Amateur	21% off List price
Marine	47.4% off List price
Avionics	49% off List price

FOR ICOM PRICING, PRODUCT AND CONTRACT INFORMATION:

**PHASE I:**

[http://www.ga.wa.gov/pca/contract/02702-ICOM-Phase\\_I-052605.pdf](http://www.ga.wa.gov/pca/contract/02702-ICOM-Phase_I-052605.pdf)

**JPS/Rathyeon  
SPECIFICATIONS**

**AM Band Aircraft Radio**

<b>Description</b>
One panel mounted VHF-AM Aeronautical Transceiver (VHF-1)
Two panel mounted VHF-AM Aeronautical Transceiver (VHF-1 and VHF-2)
Operating in the frequency band of 118.00 to 135.975 MHz
with a minimum of 760 channels in no greater than 25 Khz increments
Minimum of 5 watt carrier output power
Must be TSO certified

**PRICE SHEETS**

<b>Req. Item</b>	<b>Comm. Code</b>	<b>Description</b>	<b>Unit</b>	<b>Unit Price</b>
1	5820	One Panel Mounted VHF – AM Aeronautical Transceiver (VHF-1)  Product Bid State:  Mfg.: ICOM                      Model: IC A200 100 Panel Mount	EA	\$821.10
6.	5820	VHF Air Band Mobile Transceiver  Product Bid State:  Mfg.: ICOM                      Model: IC-A110 05	EA	\$734.40

FOR ICOM PRICING, PRODUCT AND CONTACT INFORMATION:

**PHASE II:**

[http://www.ga.wa.gov/pca/contract/02702-ICOM-Phase\\_II-052605.pdf](http://www.ga.wa.gov/pca/contract/02702-ICOM-Phase_II-052605.pdf)

**JPS/Raytheon****CONTRACTOR INFORMATION****Contractor:** [JPS/Raytheon](#)**Page number****Contact:** Krystal George**Alternate Contact:** Marcia Gatlin**Phone:** 919-790-1011 X1554

919 790 1011 X1540

919 865-1218 Direct

**Fax:** 919 790 1456

919 790 1456

**Email:** [krystal.george@jps.com](mailto:krystal.george@jps.com)[marcia.gatlin@jps.com](mailto:marcia.gatlin@jps.com)**Internet address:** [www.jps.com](http://www.jps.com)**Web catalog address:****Federal ID No.:** 56-1621866**Supplier No.:** 1794**Total Contract worth:** \$500,000,000.00**Payment address:** Raytheon/JPS  
5800 Departure Drive  
Raleigh, NC 27616**Order placement address:** Raytheon/JPS  
5800 Departure Drive  
Raleigh, NC 27616**Customer Service:** Marica Gatlin**Telephone:** 919 790 1011 X1540**Fax:** 919 790 1456**Ordering procedures:****Credit card acceptance:** Master Card, Visa**Minimum orders:****Delivery time:** 30 days After Receipt of Order (ARO)**Payment terms:** 0% 30 days**Shipping destination:** Freight on Board (FOB) destination**Freight:** Prepaid and included**Palletization:** N/A**Category** ACU1000**Equipment Line items****Link to bid Specifications** <http://www.ga.wa.gov/pca/bids/02702-Phase2-Category4.doc>**Awarded Phase(s)** Phase I & II



The purpose of this section is to purchase an audio switch unit(s) that has components that are interface modules, each designed to connect a specific communications medium (VHF/UHF radio, telephone or Satcom, HF radio, local operator, ect.), a control module, a power supply module, a chassis to accommodate the modules, and a backplane to route audio and control signals between modules.

#### Category 4, Specifications for ACU1000

Description
<b>RDI-1/DSP-1/AP-1 RX Audio Input</b>
<b>Input Impedance:</b> Balanced or unbalanced 600 ohms or 10k ohms.
<b>Input level:</b> -30 dBm to + 10 dBm, adjustable.
<b>Frequency Responses:</b> 100 Hz to 3200 kHz $\pm$ 2dB
<b>RDI-1/DSP-1 TX Audio Output RDI-1/DSP-1/AP-1 TX Audio Output</b>
<b>Output Impedance:</b> Balanced or unbalanced 600 ohms.
<b>Output Level:</b> -20 to +11 dBm, adjustable.
<b>Frequency Response:</b> 100 to 3200 Hz $\pm$ 2dB
<b>RDI-1/DSP-1/AP-1 COR Input</b>
<b>Input Impedance:</b> 47K ohm pullup to + 5V.
<b>Polarity:</b> Active low or high, selectable.
<b>Threshold:</b> + 2.5V nominal.
<b>Protection:</b> up to $\pm$ 100 VDC
<b>RDI-1/DSP-1/AP-1 PTT Output</b>
<b>Output Type:</b> Open drain, 47k ohm pullup to +5V.
<b>Polarity:</b> Active low or high, selectable.
<b>Maximum Sink Current:</b> 100 mA
<b>Maximum Open Circuit Voltage:</b> + 60 VDC
<b>PSTN-1 Telephone Interface</b>
<b>Telephone Line Levels:</b> Adjustable -24 dBm to 0 dBm in 3 dB steps.
<b>Hybrid Type:</b> DSP adaptive hybrid; -30 dB broadband balance.
<b>Frequency Response:</b> 100 Hz to 3200 Hz $\pm$ 2 dB
<b>VOX Threshold:</b> Selectable -19, -16, -13, and -10 dB relative to telephone line level.
<b>VOX Hangtime:</b> Selectable 0.5, 1.0, 1.5, and 2.0 seconds.
<b>General/ Environmental</b>
<b>Control Processor Module Serial Port:</b> RS-232 DCE connector (female DB0). Baud rates: 1200, 2400, 4800, or 9600, software selectable.
<b>Power Supply Front Panel (PSM-1A):</b> Power on/off Switch; AC on, DC on, +12 VDC, - 12 VDC LEDs.
<b>Handset/Speaker Fount Panel (HSP-2):</b> Speaker, Speaker on/off switch, 1/8 inch Headphone jack, Volume control, PTT LED, Fault LED, Handset jack, 3X4 Keypad.
<b>Control Processor Front Panel (SPM-2):</b> Master, Slave, and Fault LEDs.
<b>Radio Interface Front Panel (RDI-1):</b> Signal, COR, PTT, and Fault LEDs.
<b>Tel Interface Front Panel (PSTN-1):</b> Monitor, Ring, Connect, VOX, and Fault LEDs: L1 and L2 RJ11C Connectors.

Description
<b>Local Phone Front Panel (LP-1):</b> Monitor, Ring, Off Hook, VOX, and Fault LEDs: L1 and L2 RJ11C Connectors.
<b>Audio Processor Front Panel (AP-1):</b> Bypass, PTT, Normal, Peak LEDs, Bypass switch.
<b>Rear Panel:</b> DC fuse holder, AC filter module, connectors to interface up to 12 modules, Serial remote connector, Expansion connector.
<b>AC Input Power:</b> 115 to 230 VAC $\pm$ 15%, 47-63 Hz, 100 VA typical, 130 VA maximum.
<b>DC Input Power:</b> + 11 to + 15 VDC @ 5A nominal.
<b>Size:</b> 5.25 in H X 19 in W X 11 in D (13.3X48.3X28 cm)
<b>Temperature:</b> Operation: -20 to +60 degrees C. Storage: -40 to +85 degrees C.
<b>Humidity:</b> Up to 95% @ 55 degrees C.
<b>Shock:</b> MIL-STD-810D, method 516.3, procedure VI
<b>Vibration:</b> MIL-STD-810D, Method 514.3, Category I.
Provide product support for 7 years after last unit being purchase from this IFB.
Provide <u>Required</u> Firmware, Software updates or improvements at no cost for 7 years after last unit being purchase from this IFB.

**PRICE SHEETS**

Req. Item	Comm. Code	Description	Total Price
1.		JPS ACU-1000 Required Equipment Bundle – Includes the ACU-1000 Card Cage, PSM-1A Power Supply Module, CPM-4 Control Processor Module, and HSP-2 Handset Speaker Module For Product Bid State: Mfg.: Raytheon/JPS  Brand/Model: 5961-220000	\$7,150.00
2.		PSM-1A Power Supply Module – 60W Power Supply, Spare Module for ACU-1000 Required Equipment Bundle  Brand/Model: 5951-813000	\$855.00
3.		CPM-4 Control Processor Module – Spare Module for ACU-1000 Required Equipment Bundle, provides a network interface for remote control and programming  Brand/Model: 5961-213000	\$1,280.00
4.		HSP-2 Handset Speaker Module – Spare Module for ACU-1000 Required Equipment Bundle  Brand/Model: 5962-314000	\$1,805.00

Req. Item	Comm. Code	Description	Total Price
5.		ACU-1000 Chassis – Spare Chassis for ACU-1000 Required Equipment Bundle  Brand/Model: 5961-200000	\$3,210.00
6.		DSP-2 Radio/4-Wire Interface Module – used with the ACU-1000 and ACU-T, provides VoIP/RoIP compatibility  Brand/Model: 5961-818000	\$1,125.00
7.		PSTN-1 Public Switched Telephone Interface Module – used with the ACU-1000 and ACU-T  Brand/Model: 5961-215000	\$1,125.00
8.		LP-1 Local Phone Set Module – used with the ACU-1000 and ACU-T  Brand/Model: 5961-217000	\$1,125.00
9.		RX AP-1 RX Audio Processor Module Assembly – used with the ACU-1000  Brand/Model: 5961-294001	\$1,125.00
10.		TX AP-1 TX Audio Processor Module Assembly – used with the ACU-1000  Brand/Model: 5961-294002	\$1,125.00
11.		ACU-T Tactical Package – AC/DC Powered, Includes Card Cage, HSP-4 and CPM-4 Modules, and Accessory Kit  Brand/Model: 5030-200000	\$5,980.00
12.		ACU-T Bundle Kit – Includes the ACU-T Tactical Package and Case Option Kit with Battery Five Interface Modules are already included in price of Bundle Kit. Select five modules in any combination from the following - DSP-2, PSTN-1, LP-1, RX AP-1, or TX AP-1 modules. Anything less is not a Bundle Kit.  Brand/Model: 5030-210000	\$11,605.00
13.		Primary/Secondary Option Cable – used with the ACU-1000  Brand/Model: 0314-037000	\$255.00
14.		NXU-2 Network eXtension Unit – Desktop, 110V AC to +12V DC Powered  Brand/Model: 5000-600000	\$1,500.00

**VOLUME DISCOUNT PROGRAM - PHASE 1 AND PHASE 2 ALL CATEGORIES**

The volume discount will be cumulative and over the term of the contract.

(Initial Term of Three [3] Years)

<b>Additional Discount off Net Contract Unit Price</b>	<b>Cumulative Total Sales from:</b>	<b>Cumulative Total Sales to:</b>
2 %	\$ 5,000,000	\$ 9,999,999
3 %	\$ 10,000,000	\$ 14,999,999
3 %	\$ 15,000,000	\$ 19,999,999
4 %	\$ 20,000,000	\$ 29,999,999
5 %	\$ 30,000,000	\$ 39,999,999
5 %	\$ 40,000,000	\$ 49,999,999
5 %	\$ 50,000,000	\$ 59,999,999
5 %	\$ 60,000,000	\$ 69,999,999
5 %	\$ 70,000,000	\$ 79,999,999
5 %	\$ 80,000,000	\$ 89,999,999
5 %	\$ 90,000,000	\$ 99,999,999
5 %	\$100,000,000	\$ 100,000,000+

**Kenwood****CONTRACTOR INFORMATION****Contractor:** **Kenwood****Page number**

<b>Contact:</b>	Barry Morris	<b>Alternate Contact:</b>	Cheryl Daly
<b>Phone:</b>	800-752-0986 x8280		800-752-0986 x4469
<b>Fax:</b>	360-761-8246		360-761-8246
<b>Email:</b>	<a href="mailto:bmorris@kenwoodusa.com">bmorris@kenwoodusa.com</a>		<a href="mailto:cdaly@kenwoodusa.com">cdaly@kenwoodusa.com</a>
<b>Internet address:</b>	<a href="http://www.kenwood.net">http://www.kenwood.net</a>		
<b>Web catalog address:</b>			
<b>Federal ID No.:</b>	95-2948901		
<b>Supplier No.:</b>	100830		
<b>Total Contract worth:</b>	\$500,000,000.00		

<b>Payment address:</b>	<b>See Listed Dealer Locations by State</b>	<b>Order placement address:</b>	<b>See Listed Dealer Locations by State</b>
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<b>Customer Service:</b>	Donetha Willis
<b>Telephone:</b>	800-752-0986 x8343
<b>Fax:</b>	310-761-8246

<b>Ordering procedures:</b>	
<b>Credit card acceptance:</b>	Visa

<b>Minimum orders:</b>	
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<b>Delivery time:</b>	days After Receipt of Order (ARO)
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<b>Payment terms:</b>	<b>2% 30 days</b>
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<b>Shipping destination:</b>	Freight on Board (FOB) destination
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<b>Freight:</b>	<b>Prepaid and included</b>
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<b>Palletization:</b>	N/A
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<b>Category</b>	Category 1, Analog & Digital Portables, Digital Trunked Mobiles.
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<b>Equipment Line items</b>	
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<b>Link to bid Specifications</b>	
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<b>Currently Installed</b>	<b>27% off Manufacturer List Price</b>
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<b>Systems, upgrade</b>	
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<b>equipment, radio</b>	
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<b>equipment and accessories</b>	
----------------------------------	--

<b>Support Services</b>	\$65.00 per hour
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<b>Installation Services</b>	\$65.00 per hour
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<b>Repair Services</b>	\$90.00 per hour
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<b>Awarded Phase(s)</b>	Phase I & II
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**Kenwood**

**COLORADO**

**PageMe! Inc.**

2520 North Freeway  
Pueblo, CO 81003  
David Balsick  
Ph. (800) 748-0212  
Fx. (719) 253-7767

**Communications Systems, Inc.**

1460 South Wadsworth Boulevard  
Lakewood, CO 80232  
John (Ken) Thomas  
Ph. (303) 987-2680  
Fx. (303) 958-2992

**Legacy Communications**

11211 East Arapahoe Road, Suite 120  
Centennial, CO 80112  
Eric Rhodes  
Ph. (303) 961-3434  
Fx. (303) 799-0293

**Triple C Communications, Inc.**

7076 South Alton Way, Building A  
Centennial, CO 80112  
Steve Crout  
Ph. (303) 850-9000  
Fx. (303) 792-0442

**Teller 2-Way, Inc.**

218 Calle Del Sol  
Florissant, CO 80816  
Ed Bretag  
Ph. (719) 442-6917  
Fx. (719) 686-8967

**Advanced Communications and Technologies, Inc.**

1420 Rue de Trust  
Erie, CO 80516  
Curtis Nations  
Ph. (303) 280-3090  
Fx. (303) 280-3091

**Andrews Radio Service**

P.O. Box 376  
240 East Jasper Avenue  
Granby, CO 80446  
David L. Andrews  
Ph. (970) 887-3624  
Fx. (970) 887-3455

Two-Way Communications, Inc.  
2511 Belford Avenue  
Grand Junction, CO 81501  
Dennis H. Eschliman  
Ph. (970) 243-9823  
Fx. (970) 241-1241

**Kenwood**

**HAWAII**

**CQ Communications, Inc.,**

1111 Dillingham Boulevard, Suite E7  
Honolulu, HI 96817  
Ph. (808) 841-9696  
Fx. (808) 841-9494

**STARRCOMM Communications**

650 Kohou Street Suite A  
Honolulu, HI 96817  
Ph. (808) 845-7822  
Fx. (808) 845-1722

**IDAHO**

**All Wireless Communications**

1112 Oakley Ave  
Burley, ID 83318  
Mike Butler  
Ph. (208) 878-3537  
Fx. (208) 878-4700

**American Communications**

578 E 49 South  
Idaho Falls, ID 83404  
Vance Hawley  
Ph. (208) 522-9296  
Fx. (208) 524-7099

**Clark Radio Electronics**

550 W. Pacific St.  
Blackfoot, ID 83221  
Aaron Clark  
Ph. (208) 785-1430  
Fx. (208) 785-0001

**J&R Electronics**

7560 North Government Way Ste. 3  
Dalton Gardens, Id 83815  
Jim Lemm  
Ph. (208) 762-8181  
Fx. (208) 762-4047

**Northwest Communications**

1301 Grelle Ave  
Lewiston, ID 83501



**Kenwood**

Collin Matoon

Ph. (208) 746-0433

Fx. (208) 743-5147

**Teton Communications**

545 S. Utah  
Idaho Falls, ID 83402  
Tony Hafala  
Ph. (208) 522-0750  
Fx. (208) 525-3400

**Mountain West Communications**

8004 Woodlark  
Boise, ID 83709  
Ed Flagen  
Ph. (208) 362-8700  
Fx. (208) 362-8900

**Kenwood****MINNESOTA** (pg. 1 of 2)**Action Radio & Communications**

7351 Kirkwood Lane North, Suite 134  
Maple Grove, MN  
Michael Dyer  
Ph. (763) 391-6611  
Fx. (763) 391-6612

**Mobile Radio Engineering, Inc.**

745 Boone Avenue North  
Golden Valley, MN 55427-4430  
Dan Davey  
Ph. (763) 544-3319  
Fx. (763) 544-2078

**Hilltop Communications, Inc.**

1523 Old West Main Street  
Red Wing, MN 55066  
Patrick Scofield  
Ph. (651) 388-1795  
Fx. (651) 385-9020

**Phoenix Distributing, Inc.**

451 Cliff Road East  
Burnsville, MN 55337  
Carl Hartell  
Ph. (952) 808-0060  
Fx. (952) 808-0087

**Jayen of Duluth, Inc.**

5051 Miller Trunk Highway  
Duluth, MN 55811  
Tom Rogentine  
Ph. (218) 729-9300  
Fx. (218) 729-5366

**Radio Connections, Inc.**

1909 27<sup>th</sup> Street South  
Moorhead, MN 56560  
Ken Bye  
Ph. (218) 287-4872  
Fx. (218) 287-4449

**Johnson Radio Communications**

660 Transfer Road  
St. Paul, MN 55114  
Larry Sedgwick  
Ph. (651) 645-6471 x1239  
Fx. (651) 917-4262

**Two-Way Communications, Inc**

426 1<sup>st</sup> Avenue SE  
Hutchinson, MN 55350  
Brian Cordes  
Ph. (320) 587-9656  
Fx. (320) 587-9724

**Litcom, Inc.**

420 South Gilman Avenue  
Litchfield, MN 55355  
Randy Celander  
Ph. (320) 693-2626  
Fx. (320) 693-6597

**Voyageurs Communications**

6063 Highway 11  
International Falls, MN 56649  
LeRoy Hervey  
Ph. (218) 283-9477  
Fx. (218) 283-5747

**Kenwood**

**MINNESOTA** (pg. 2 of 2)

**Pete's Communications, Inc.**

1350 NW 7<sup>th</sup> Street  
Willmar, MN 56201  
Peter C. Hoagland  
Ph. (320) 235-0630  
Fx. (320) 235-7858

**Aldrich Communications, Inc.**

1401 Cannon Circle, Ste 1  
P.O. Box 931  
Faribault, MN 55021  
Debra Aldrich  
Ph. (507) 334-7722

**Spielman Radio**

924 Duluth Avenue North  
Thief River Falls, MN 56701  
Paul Spielman  
Ph. (218) 689-1584  
Fx. (218) 681-6063

**Audio Communications**

Box 221, 751 Rose Drive  
Big Lake, MN 55309  
Richard C. Backlund  
Ph. (763) 263-3582  
Fx. (763) 263-7811

**Stan's Communications Corp.**

2103 13<sup>th</sup> Avenue North  
Grand Forks, ND 58203  
Stan Whicker  
Ph. (701) 746-5454  
Fx. (701) 746-8953

**Kenwood****OREGON****Cagle Communications**

1941 NW Mullholland Drive  
Rosenburg, OR 97470  
Shannon Pickett  
Ph. (541) 672-1233  
Fx. (541) 672-0020

**Cascade Communications**

333 Spring Street  
Klamath Falls OR 97601  
Roger Brown  
(541) 883-3322  
(541) 884-1494

**Central Mountain**

62910 Boyd Acres Rd #5  
Bend OR 97708  
Mark Ernst  
(541) 385-9101  
(541) 388-8933

**Communications Northwest**

1430 NW Glisan  
Portland OR 97209  
Ron Postman  
(503) 243-3355  
(503) 227-5449

**My-Com**

985 Conger # 2  
Eugene OR 97402  
Craig Meyers  
(541) 686-1873  
(541) 687-9567

**Radio Communication Service**

DbA Complete Wireless Solutions  
1245 Washington Street SW  
Albany OR 97321  
Mark Schumacher  
(541) 928-1631  
(541) 928-4221

**Silke Communications**

680 Tyler  
Eugene OR 97402  
Mike Smith  
(541) 687-1611  
(541) 687-1613

**Prevailing Communications**

14205 Ekroth Rd.  
Bay City, OR 97107  
Tim Roach  
Ph. (503) 322-2468  
Fx. (503) 322-3746

**Slater Communications**

1724 Southeast 23rd Street  
Salem OR 97309  
Stu Slater  
(503) 399-7010  
(503) 371-6545

**Sis-Q Communications**

1825 NE 6th Street  
Grants Pass OR 97526  
Steve Porter  
(541) 479-0417  
(541) 479-0391

**Schumacher Sales & Service**

7987 Boedigheimer Rd. SE  
Sublimity, OR 97385  
Richard Schumacher  
Ph. (503) 769-2451  
Fx. (503) 769-6752

**Kenwood**

**MONTANA**

**Acorn Technologies**

2110 Overland Ave Ste 118  
Billings MT 59108  
Mark Morgan  
(406) 652-1515  
(406) 652-1550

**Dunne Communications**

204 E. Commercial Street  
Anaconda MT 59711  
Tom Dunne  
(406) 563-7115  
(406) 563-6065

**Advanced Communications**

1540 S. Central Ave  
Sidney MT 59270  
Lary Denowh  
(406) 482-1659  
(406) 482-1662

**East-Mont Communications**

1819 Main Street  
Miles City MT 59301  
Blaine Carlson  
(406) 232-6732  
(406) 232-6732

**Bridger Communications**

516-A Bryant Street  
Bozeman MT 59715  
Jeff Tong  
(406) 587-5080  
(406) 587-8084

**Maki Communications**

8259 FM Road  
Libby MT 59923  
Terry Maki  
(406) 293-7140  
(406) 293-6784

**Crum Electronics**

665 Faw Road  
Helena MT 59602  
Glenn Crum  
(406) 422-9110

**Mobilefone**

15-18 Street E  
Kalispell, MT 59901  
Scott Richardson  
Ph. (406) 752-5373  
Fx. (406) 752-5390

**Kenwood**

**WASHINGTON (page 1 of 2)**

**A-1 TV Hi-Fi Service**

100 W. Pioneer Street  
Harrah, WA 98933  
John Morrell  
Ph. (509) 848-2343  
Fx. (509) 848-2343

**County Communications**

823 "E" Street  
Washougal, WA 98671  
Jim O'Donohue  
Ph. (360) 835-3772  
Fx. (360) 835-0331

**Action Communications**

12414 Hwy. 99 S A-14  
Everett, WA 98204  
Perry Wheeler  
Ph. (425) 486-9121  
Fx. (425) 712-8076

**Friday Harbor**

1574 Gulf Road  
Point Roberts, WA 98281  
Peter Van Baggen  
Ph. (360) 945-2053  
Fx. (360) 945-2058

**Addy Telecommunications**

2016 Marble Valley Basin Rd.  
Addy, WA 99101  
John O'Keefe  
Ph. (509) 935-6200  
Fx. (509) 935-7930

**Industrial Communications**

E 16610 Sprague  
Veradale, WA 99037  
Dick Ackerman  
Ph. (509) 928-0322  
Fx. (509) 928-5583

**Americell Communications**

115 NW Main  
Wilbur, WA 99158  
Jason Horstman  
Ph. (509) 647-2421  
Fx. (509) 647-2426

**Industrial Communications LLC**

625 S. Lander  
Seattle, WA 98134  
Kevin Berry  
Ph. (206) 264-0970  
Fx. (206) 264-0971

**Business Radio**

205 N. Volland  
Kennewick, WA 99336  
Bill Holesworth  
Ph. (509) 783-9592  
Fx. (509) 735-3860

**Pacific Electronics Spokane, Inc.**

N. 111 Vista Rd.  
Spokane, WA 99213  
Kathy Cross  
Ph. (509) 922-4632  
Fx. (509) 891-5905

**Kenwood**

**WASHINGTON (page 2 of 2)**

**Puget Sound**

11206 51<sup>st</sup> Ave. NE  
Marysville, WA 98271  
Phil Perry  
Ph. (360) 659-2408  
Fx. (360) 651-2495

**Switzer Communications**

9514 E. Montgomery Ave. Ste. 33  
Spokane, WA 99206  
Wes Hamilton  
Ph. (509) 927-5079  
Fx. (509) 927-5608

**Quality Mobile Communications**

12200 NE 60<sup>th</sup> Way #A-108  
Vancouver, WA 98682  
Nick Ruark  
Ph. (360) 254-9505  
Fx. (360) 254-9514

**Wentz Electronics**

38523 SE King Street  
Snoqualmie, WA 98065  
Ed Wentz  
Ph. (425) 888-0939  
Fx. (425) 888-3373

**Starcomm Communications**

130 Hillcrest Ave.  
Electric City, WA 99123  
Lee Atarr  
Ph. (509) 633-0702  
Fx. (509) 633-0702

**Western Communications**

4239 201 Ave. NE  
Bellevue, WA 98006  
Jim Fridlund  
Ph. (425) 868-2957  
Fx. (206) 878-1006

**Spectrum Communications**

526 S. Locust Ave.  
Moses Lake, WA 98837  
Doug Vines  
Ph. (509) 765-7773  
Fx. (509) 765-1943

**Whisler Communications**

2875 RW Johnson Blvd. SW  
Olympia, WA 98512  
Les Whisler  
Ph. (360) 352-8777  
Fx. (360) 357-4462

**Wiztronics Inc.**

1800 Ekllis Street  
Bellingham, WA 98225  
Bob Baker  
Ph. (360) 733-5560  
Fx. (360) 734-9073



**Kenwood****WISCONSIN****Two-Way Communications, Inc.**

705 South Barstow  
Eau Claire, WI 54701  
Donald Schuknecht  
Ph. (800) 236-2585  
Fx. (715) 832-4177

**Nielson Communications, Inc.**

645 Potts Avenue  
Green Bay, WI 54304  
Steve Nielson  
Ph. (920) 494-1828  
Fx. (920) 494-7391

**Bandt Communications, Inc.**

1346 Excalibur Drive  
Janesville, WI 53546  
Steve Bandt  
Ph. (608) 757-1770  
Fx. (608) 757-1783

**Air Communications of Central WI**

2430 Industrial Street  
Wisconsin Rapids, WI 54495  
Ron Feutz  
Ph. (715) 424-3050  
Fx. (715) 424-3052

**P&H Services**

109 15<sup>th</sup> Avenue North  
P.O. Box 347  
Bangor, WI 54614  
Greg Peterson  
Ph. (608) 486-2263  
Fx. (608) 486-4846

**Dal Santo Communications, Inc.**

2526 Garden Lane  
Green Bay, WI 54313  
Dennis Dal Santo  
Ph. (920) 434-1434  
Fx. (920) 434-0383

**RC Electronics, Inc.**

8322 Antioch Road  
Salem, WI 53168  
Rick Jarvis/Rich Manthy  
Ph. (262) 843-4262  
Fx. (262) 843-4192

**JSM Communications, Inc.**

N5764 County Highway TT  
Sheboygan Falls, WI 53085  
Jeff Sohn  
Ph. (920) 467-7503  
Fx. (920) 467-7582

**Pointon Communications**

202 South Boulevard  
P.O. Box 614  
Baraboo, WI 53913  
Brad Pointon  
Ph. (608) 355-0257  
Fx. (608) 355-0261

**Air Communications of WI, Inc.**

2335 Eddy Lane, Suite A  
Eau Claire, WI 54703  
Harold Yates  
Ph. (715) 835-1751  
Fx. (715) 835-4046

**Viking Land Mobile Communications**

1421 South 62<sup>nd</sup> Street  
Milwaukee, WI 53214  
Sal Dragotta  
Ph. (414) 771-8960  
Fx. (414) 771-8074

**Kenwood****PHASE I PRICING**

<b>Req. Item</b>	<b>Comm. Code</b>	<b>Description</b>	<b>Qty</b>	<b>Unit</b>	<b>Percentage off Mfg List Price</b>
1.		Base Station	1-4 5-10 11+	EA EA EA	27% 27% 27%
2.		Repeater	1-4 5-10 11+	EA EA EA	27% 27% 27%
3.		Portable Radio	1-49 50+	EA EA	27% 27%
4.		Mobile Radio	1-20 21-100 101+	EA EA EA	27% 27% 27%
5.		Desktop	1-20 21-100 101+	EA EA EA	27% 27% 27%
6.		Console Unit	1-9 10+	EA EA	
7.		Support Services	1	HR	\$65.00
8.		Installation Services	1	HR	\$65.00
9.		Repair Services	1	HR	\$90.00
10.		Accessories		EA	27%
11.		List other Equipment		EA	

**Kenwood**

## Phase I Equipment

TK-190	TK-980
TK-260	TK-981
TK-270	TK-2100
TK-272	TK-2140
TK-280	TK-2160
TK-290	TK-3100
TK-360	TK-3130
TK-370G	TK-3131
TK-372G	TK-3140
TK-373	TK-3160
TK-380	TK-5210
TK-390	TK-5710
TK-480	TK-6100
TK-481	TK-7150
TK-690 (H)	TK-8150
TK-760G (H)	TKB-720
TK-762G (H)	TKR-720
TK-790 (H)	TKR-750
TK-780	TKR-820
TK-860G (H)	TKR-850
TK-863G	KDS-100
TK-880	GPS
TK-890(H)	FLEETSYNC
TK-930	PASSPORT
TK-931	SYSTEMS

**Kenwood – Phase II****Kenwood Price Sheets**

ITEM	Mfg Name	Brand/Model#	Total Price
<b>Portable</b> Analog			
High VHF 136-174 Quality Category D	Kenwood	TK-280K / K2	\$498.50
UHF 450-470 Quality Category C	Kenwood	TK-380K	\$498.50

**Kenwood – Phase II****Portable Analog****High VHF 136-174 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	2	250
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	2.5
Channel Spacing, kHz	12.5 / 25 / 30	12.5 / 25 / 30
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/5 selectable (Low/High)	1/5
Radiated Spurious & Harmonic Emission, dB	-60	-70
FM Noise, dB	-40	-45
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-60	-75/-65
Spurious and Image Rejection, dB	-70	-70
Intermodulation, dB	-70	-70
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	5
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$498.50</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		Kenwood USA
Prices are based on price list quoted above dated:		7/1/2003
Discount percentage represented by this price is		27%
Delivery - expressed in days after Receipt of Order		Less than 60 Days
Warranty Period - in excess of that required by the specifications (in days)		365 Days
% Tax required		0%
Components added to the above model to meet required specifications:		

**Kenwood – Phase II**

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
KSC-19	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ *	\$25.55
INCLUDED	Position Rotary Channel/Mode Select Switch Option	
INCLUDED	Low Battery Alert Tone Option	
TK-280K3 / K4	Dual Tone Multi Frequency encoder and Key Pad Option	\$24.09
KLH-75B / 76B	Leather Carrying Case Option	\$30.66
KMC-25	External Speaker/Microphone Option	\$67.16
<b>OPTIONAL OPTIONS</b>		
KVC-5	Vehicular Charger/Console Option	\$248.20
INCLUDED	Flashing EEPROM	
INCLUDED	Provision for Field Software Upgrade	
NO	Secure Encryption Option	
KVC-8A	RF Power Amplifiers Option	\$646.05
INCLUDED	Paging Decoder Option	
INCLUDED	Emergency Button/Switch Option	
INCLUDED	Programmable Button/Switch Option	
INCLUDED	Push-to-talk ID Transmission Option	
INCLUDED	Alphanumeric Display Option	

**Kenwood – Phase II****Portable Analog****UHF 450-470 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	14	250
Operational Bandwidth/Maximum Frequency Separation, MHz	20	40
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	± 2.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/4 selectable (Low/High)	1/4 selectable (Low/High)
Radiated Spurious & Harmonic Emission, dB	-60	-70
FM Noise, dB	-40	-40
Audio Distortion, % maximum	5	3
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-119
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-60	-70/-62
Spurious and Image Rejection, dB	-70	-70
Intermodulation, dB	-70	-70
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	5
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$498.50</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		Kenwood USA
Prices are based on price list quoted above dated:		7/1/2003
Discount percentage represented by this price is		27%
Delivery - expressed in days after Receipt of Order		Less than 60 Days
Warranty Period - in excess of that required by the specifications (in days)		365 Days
% Tax required		0%
Components added to the above model to meet required specifications:		

**Kenwood – Phase II**

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
KSC-19	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ *	\$25.55
INCLUDED	Position Rotary Channel/Mode Select Switch Option	
INCLUDED	Low Battery Alert Tone Option	
INCLUDED	Alphanumeric Display Option	
TK-380K4	Dual Tone Multi Frequency encoder and Key Pad Option	\$36.50
KLH-75B / 76B	Leather Carrying Case Option	\$30.66
KMC-25	External Speaker/Microphone Option	\$67.16
<b>OPTIONAL OPTIONS</b>		
KVC-5	Vehicular Charger/Console Option	\$248.20
INCLUDED	Flashing EEPROM	
INCLUDED	Provision for Field Software Upgrade	
NO	Secure Encryption Option	
KVC-8A	RF Power Amplifiers Option	\$646.05
INCLUDED	Paging Decoder Option	
INCLUDED	Emergency Button/Switch Option	
INCLUDED	Programmable Button/Switch Option	
INCLUDED	Push-to-talk ID Transmission Option	



**M/ACom****CONTRACTOR INFORMATION****Contractor:** **M/ACOM****Page number** 159

<b>Contact:</b>	Ramona Brunswick	<b>Alternate Contact:</b>	Kit Eldredge	<b>Alternate Contact:</b>	Gary Palmer, Pres., Pacific Electronic, Inc. (360) 459-5212
<b>Phone:</b>	480-839-2500		425-269-1853		
<b>Fax:</b>	623 321-1442		480-839-2524		
<b>Email:</b>	<a href="mailto:brunswir@tycoelectronics.com">brunswir@tycoelectronics.com</a>		<a href="mailto:eldredgec@tycoelectronics.com">eldredgec@tycoelectronics.com</a>		5711 Lacey Blvd Suite 301, Lacey, WA 98503

<b>Corporate Contact:</b>	Roger Boucher	<b>Alternate Contact:</b>	Cristal Huyghe
<b>Phone:</b>	434-455-9425		434-455-9451
<b>Fax:</b>			
<b>Email:</b>	<a href="mailto:boucherro@tycoelectronics.com">boucherro@tycoelectronics.com</a>		<a href="mailto:huyghec@tycoelectronics.com">huyghec@tycoelectronics.com</a>
<b>Internet address:</b>	<a href="http://www.macom.com/">http://www.macom.com/</a>		

**Web catalog address:****Federal ID No.:** 65-0916944**Supplier No.:** 111922**Total Contract worth:** \$500,000,000.00

**Payment address:** **Dallas Lockbox**  
M/A-COM, Inc.  
PO Box 121013  
Dallas, TX 75312-1013

**-OR-**  
**Atlanta Lockbox**  
M/A-COM, Inc.  
DEPT AT 40432  
Atlanta, GA 31192-  
0432**OR**

**Order placement  
address:**  
950 W. Elliot Rd., #109  
Tempe, AZ 85284

**Customer Service:** Ramona Brunswick**Telephone:** 480-839-2500**Fax:** 480-839-2524**Ordering procedures:** Call Sales Contact above with Purchase Order**Credit card acceptance:** MasterCard, Visa**Delivery time:** Approximately 4 to 6 weeks after receipt of required information and contingent upon on backlog at the time of order**Payment terms:** 1% 10 days**Shipping destination:** Freight on Board (FOB) destination**Freight:** Prepaid and included**Palletization:** N/A**Category:** Category 1; Category 4, Gateway Devices.**Equipment Line items**

**Accessory Equipment** 25% discount off Manufacturer Standard Retail Price (manufactured products and accessories in category "N" or "C" within the M/A COM Wireless Systems, Product and Services Catalog).

**Link to bid** <http://www.ga.wa.gov/pca/bids/02702-Phase2-Category4.doc>**Specifications** <http://www.ga.wa.gov/pca/bids/02702-Phase2-Category1.zip>**Link to Price Sheets** **Price sheet**

**M/ACom**

**Awarded Phase(s)**

**Category 4, IP Solution,**  
**M/A COM**  
**Phase I & II**

ITEM
<b>Portable Analog</b>
High VHF 136-174 Quality Category C
<b>Mobile Analog</b>
UHF 450-470 Quality Category C
UHF 806-870 Quality Category A
<b>Remote Base Analog</b>
High VHF 136-174 Quality Category D
UHF 450-470 Quality Category D
<b>Mobile Digital</b>
High VHF 136-174 Quality Category B
UHF 450-470 Quality Category B

**Portable Analog**  
**High VHF 136-174 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	14	100
Operational Bandwidth/Maximum Frequency Separation, MHz	38	70
Frequency Stability (-30 °C to + 60 °C), PPM	± 2.5	±2.5
Channel Spacing, kHz	12.5 / 25 / 30	12.5 / 25
<b>TRANSMITTER</b>		
RF Power Output, Watts	1/5 selectable (Low/High)	1/2.5/4
Radiated Spurious & Harmonic Emission, dB	-60	-66
FM Noise, dB	-40	-38/-34
Audio Distortion, % maximum	5	<5
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-117/-117
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-60	-70/-65
Spurious and Image Rejection, dB	-70	-65
Intermodulation, dB	-70	-70
Speaker Audio Output, milliwatts	350	500
Audio Distortion, % maximum	5	5
Static BER sensitivity @ 5% referenced @ 12.5 KHZ	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$560</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		Products & Svcs Catalog
Prices are based on price list quoted above dated:		7/22/2003
Discount percentage represented by this price is		25%
Delivery - expressed in days after Receipt of Order		14*
Warranty Period - in excess of that required by the specifications (in days)		0
% Tax required		_____ %
Components added to the above model to meet required specifications:		
GP605STX, GPNC5V, GPPA9G (qty 2), GPCH9F		

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
n/a	Flashing EEPROM	n/a
n/a	Provision for Field Software Upgrade	n/a
n/a	Secure Encryption Option	n/a
GPCH9F	Battery Charger/Vehicular Battery or Nominal 120 VAC, 60 HZ *	\$60
included	Dual Tone Multi Frequency encoder and Key Pad Option - included	\$0
	Leather Carrying Case Option	
GPHC9F	BELT LOOP, LEATHER	\$21
GPHC9G	D-SWIVEL	\$14
n/a	RF Power Amplifiers Option	n/a
	External Speaker/Microphone Option	
GPAE9A	MICROPHONE, LAPEL/ANTENNA PROVISION, High/Low Volume, Earphone Jack, MIL-STD.	\$173
GPAE7Z	MICROPHONE, LAPEL, High/Low Volume, Earphone Jack, MIL-STD.	\$149
GPAE3Z	EARPHONE, LAPEL MICROPHONE	\$45
GPAE5Z	HEADSET, BEHIND THE HEAD, 2 PIN (must be used with GPCN7B)	\$488
GPAE5Y	HEADSET, OVER THE HEAD, 2 PIN (must be used with GPCN7B)	\$392
GPAE5X	HEADSET, LIGHTWEIGHT, WITH IN-LINE PTTT, 2 PIN (must be used with GPCN7B)	\$137
GPAE5W	MICROPHONE, LAPEL, 3 WIRE, 2 PIN (must be used with GPCN7B)	\$134
GPAE5U	MICROPHONE, LAPEL, HIGH/LOW VOLUME, 2 PIN (must be used with GPCN7B)	\$116
GPAE5V	MICROPHONE, 2 WIRE PALM, 2 PIN (must be used with GPCN7B)	\$86
GPCN7B	ADAPTER, ACCESSORY, 2 PIN	\$28
n/a	Paging Decoder Option	n/a
<b>OPTIONAL OPTIONS</b>		
	Vehicular Charger/Console Option	
GPZN3X	CHARGER, VEHICULAR, ENHANCED Includes external speaker & mobile style microphone (not compatible withh PANTHER 400P, 600P, or 625P or with NiMH battery option GPPA9H) Requires Hardware Mounting Kit (GPMA5L)	\$344
GPCH9K	CHARGER, VEHICULAR (not compatible with PANTHER 400P, 600P, or 625P or with NiMH battery option GPPA9H) Required Hardware Mounting Kit (GPMA5L)	\$296
GPMA5L	KIT, MOUNTING HARDWARE, VEHICULAR CHARGER (GPCH9K and GPZN3X)	\$48
GPMA5M	CABLE, REMOTE PTT For Vehicular Charger (GPZN3X)	\$30

**Mobile Analog**  
**UHF 450-470 Quality Category C**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	32	128
Operational Bandwidth/Maximum Frequency Separation, MHz	20	30
Frequency Stability (-30 °C to + 60 °C), PPM	5	1.5
Channel Spacing, kHz	12.5 / 25	12.5/25
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	35	40
Radiated Spurious & Harmonic Emission, dB	-60	-85
FM Noise, dB	-45	-45
Audio Distortion, % maximum	5	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-70/-65	-80/-70
Spurious and Image Rejection, dB	-70	-90
Intermodulation, dB	-70	-80/-70
Speaker Audio Output, watts	3	15
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,458.75</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		Products & Svcs Catalog
Prices are based on price list quoted above dated:		7/22/2003
Discount percentage represented by this price is		25%
Delivery - expressed in days after Receipt of Order		42*
Warranty Period - in excess of that required by specifications (in days)		0
% Tax required		
Components added to the above model to meet required specifications: D2UMCXE, D2CP5M, D2MC7T, D2ZN1A		

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
	Separate Data Connector Option	
D2ZN1B	KIT, ACCESSORY, FRONT MOUNT WITH EXTENDED OPTION CABLE	\$113
	Desktop/Mobile Conversion Option	
DSDX06	DESKTOP BASE, CONVENTIONAL ORION WITH TONE REMOTE AND CLOCK/VU METER (4-Channel Tx/Rx only)	\$1,305
DSDX05	DESKTOP BASE, CONVENTIONAL ORION WITH DC REMOTE AND CLOCK/VU METER (1-Channel Tx/Rx only)	\$1,275
DSDX03	DESKTOP BASE, CONVENTIONAL ORION WITH TONE REMOTE (4-Channel Tx/Rx only)	\$1,166
DSDX02	DESKTOP BASE, CONVENTIONAL ORION WITH DC REMOTE (1-Channel Tx/Rx only)	\$1,136
DSDX08	DESKTOP BASE, CONVENTIONAL ORION WITH CLOCK/VU METER, LOCAL CONTROL	\$1,110
DSDX01	DESKTOP BASE, CONVENTIONAL ORION, LOCAL CONTROL	\$971
D2MC5A	MICROPHONE, DESK	\$90
INCLUDED	ALPHANUMERIC DISPLAY OPTION - INCLUDED WITH RADIO	\$0

<b>OPTIONAL OPTIONS</b>		
INCLUDED	SINGLE UNIT DASH MOUNT OPTION - INCLUDED WITH RADIO	\$0
N/A	SECOND PROGRAMMABLE RECEIVER WITH SEPARATE SPEAKER	\$0
INCLUDED	FLASHING EEPROM - INCLUDED WITH RADIO	\$0
INCLUDED	PROVISION FOR FIELD SOFTWARE UPGRADE - INCLUDED WITH RADIO	\$0
	SECURE ENCRYPTION OPTION	
D2VS	ENCRYPTION, DIGITAL VOICE, DES, AEGIS - EXTENDED OPTION CABLE REQUIRED	\$713
D2ZN1B	KIT, ACCESSORY, FRONT MOUNT WITH EXTENDED OPTION CABLE	\$113
INCLUDED	EMERGENCY BUTTON/SWITCH OPTION - INCLUDED	\$0
INCLUDED	PROGRAMMABLE BUTTON/SWITCH OPTION - INCLUDED	\$0
N/A	PUSH-TO-TALK ID TRANSMISSION OPTION - INCLUDED	N/A
	DUAL TRANSCEIVER OPTION; SECONDARY TRANSCEIVER TIED TO SINGLE CONTROL HEAD REQUIRES THE FOLLOWING:	
D2HMCX	MOBILE, CONVENTIONAL ORION	\$765
D2ZN1F	KIT, ACCESSORY, REMOTE MOUNT WITH STANDARD OPTION CABLE	\$146
D2VE	KIT, ACCESSORY, DUAL RADIO, 50W TX AND BELOW	\$113
	DUAL CONTROL HEAD OPTION REQUIRES THE FOLLOWING:	
D2ZN1V	DUAL CONTROL, SYSTEM CONTROL UNIT	\$581
D2MC7T	MICROPHONE, MOBILE	\$56
D2ZN5S	CONTROL UNIT, DUAL CONTROL, HAND HELD CONTROLLER W/SIREN	\$581
D2ZN5R	CONTROL UNIT, DUAL CONTROL, HAND HELD CONTROLLER W/O SIREN	\$581
D2MC5N	MICROPHONE, DTMF	\$131
D2MC5L	MICROPHONE, NOISE CANCELING	\$94
D2ZN1B	KIT, ACCESSORY, FRONT MOUNT WITH EXTENDED OPTION CABLE	\$113
D2ZN1F	KIT, ACCESSORY, REMOTE MOUNT WITH STANDARD OPTION CABLE	\$146
D2ZN1W	KIT, ACCESSORY, DUAL RADIO, 50W TX AND BELOW	\$113
D2MK3F	KEYCAP KIT, SYSTEM CONTROL UNIT,	\$56
TQ3389	SOFTWARE, CONVENTIONAL ONLY PROGRAMMER	\$250
TQ3370	KIT, PROGRAMMING INTERFACE MODULE, 110 VAC	\$250
TQ3377	CABLE, PROGRAMMING, FOR ORION	\$180

**Mobile Analog**  
**UHF 806-870 Quality Category A**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	160	250
Operational Bandwidth/Maximum Frequency Separation, MHz	64	64
Frequency Stability (-30 °C to + 60 °C), PPM	1.5	1.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	35	10-35
Radiated Spurious & Harmonic Emission, dB	-70	-70
FM Noise, dB	-40	-40
Audio Distortion, % maximum	2	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-117	-117
Selectivity, adj. channel (dB), 25/12.5 kHz	-80	-80
Spurious and Image Rejection, dB	-90	-90
Intermodulation, dB	-80	-80
Speaker Audio Output, watts	10	12
Audio Distortion, % maximum	3	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$1,983.75</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		Products & Srvcs. Catalog
Prices are based on price list quoted above dated:		7/22/2003
Discount percentage represented by this price is		25%
Delivery - expressed in days after Receipt of Order		14*
Warranty Period - in excess of that required by specifications (in days)		0
% Tax required		
Components added to the above model to meet required specifications:		
HB8MCX, HBCP7V, HBZN3B, HBMC7T		



REQUIRED OPTIONS		
Part Number	Description	Price
included	Flashing EEPROM	\$0
included	Provision for Field Software Upgrade	\$0
included	Secure Encryption Option	\$0
	Desktop/Mobile Conversion Option (Jaguar 725M uses Orion parts for desktop conversion)	
DSDX06	DESKTOP BASE, CONVENTIONAL ORION WITH TONE REMOTE AND CLOCK/VU METER (4-Channel Tx/Rx only)	\$1,305
DSDX05	DESKTOP BASE, CONVENTIONAL ORION WITH DC REMOTE AND CLOCK/VU METER (1-Channel Tx/Rx only)	\$1,275
DSDX03	DESKTOP BASE, CONVENTIONAL ORION WITH TONE REMOTE (4-Channel Tx/Rx only)	\$1,166
DSDX02	DESKTOP BASE, CONVENTIONAL ORION WITH DC REMOTE (1-Channel Tx/Rx only)	\$1,136
DSDX08	DESKTOP BASE, CONVENTIONAL ORION WITH CLOCK/VU METER, LOCAL CONTROL	\$1,110
DSDX01	DESKTOP BASE, CONVENTIONAL ORION, LOCAL CONTROL	\$971
D2MC5A	MICROPHONE, DESK	\$90

OPTIONAL OPTIONS		
Part Number	Description	Price
	Second Programmable Receiver with Separate Speaker (see below)	
HBZN3H	CONTROL UNIT, DUAL CONTROL, SYSTEM	\$581
HBZN3G	CONTROL UNIT, DUAL CONTROL, SCAN	\$431
HBZN3V	CONTROL UNIT, DUAL CONTROL, HAND HELD CONTROLLER WITHOUT SIREN, includes microphone	\$581
HBZN3W	CONTROL UNIT, DUAL CONTROL, HAND HELD CONTROLLER WITH SIREN, includes microphone	\$581
HBMC5N	MICROPHONE, DTMF	\$131
HBMC5L	MICROPHONE, NOISE CANCELING	\$94
HBMC5A	MICROPHONE, DESK	\$90
MBMC7T	MICROPHONE, MOBILE	\$56
HBMK3F	KIT, KEYCAP, SYSTEM CONTROL UNIT 72 keys and extractor tool	\$49
MGMK3E	KIT, KEYCAP, SCAN CONTROL UNIT 11 keys and extractor tool	\$19
HBZN3J	KIT, ACCESSORY, DUAL RADIO, 50W TX AND BELOW	\$113
HBEN	FEATURE, EXTENDED NETWORK Includes 800 Systems/Groups/ProScan™/ProFile™	\$413
HBPL1X	FEATURE, ProScan™	\$225
HBPL5K	FEATURE, ProFile™	\$225
HBCC	FEATURE, CRITICAL COMMUNICATIONS, EMERGENCY/DYNAMIC REGROUP	\$150
HBPL3R	FEATURE, 800 EDACS SYSTEMS/GROUPS	\$150
HBPL3Y	FEATURE, STATUS/MESSAGE	\$75
HBPL1Y	FEATURE, PRIORITY SYSTEM SCAN	\$75
HBPL7G	FEATURE, EDACS SECURITY KEY	\$75
HBPL5L	FEATURE, P25 OVER-THE-AIR RE-KEYING (OTAR)	\$488
HBPL3X	FEATURE, PROJECT 25 DATA (Conventional only)	\$150
HBAN1L	ANTENNA, 800 MHZ, 1/4 WAVE, ROOF MOUNT	\$19
HBCL1X	CABLE, DATA INTERFACE	\$49
HBMA5W	SUPPORT, CONNECTOR Supports the radio control cable at the rear of the radio for VRC (vehicular repeater) applications.	\$18
1016	SIREN, ELECTRONIC, WITH LIGHT CONTROL, SS2000 Provides a serial-to-parallel interface to the Orion Control Units for generation of the siren and control of 8 light functions	\$788
1020	SPEAKER, 100W, TS100 For use with Light Bars or Concealed Mounting	\$184

**Remote Base Analog**  
**High VHF 136-174 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels	4	4 frequencies
Operational Bandwidth/Maximum Frequency Separation, MHz	38	14.8 / 23.2
Frequency Stability (-30 °C to + 60 °C), PPM	5	1.5
Channel Spacing, kHz	12.5 / 25	12.5/25
<b>TRANSMITTER</b>		
RF Power Output, Watts	25	110
Radiated Spurious & Harmonic Emission, dB	-57	-66
FM Noise, dB	-40	-55
Audio Distortion, % maximum	5	<3%
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-75	-95/-80
Spurious and Image Rejection, dB	-80	-100
Intermodulation, dB	-75	-90/-75
Speaker Audio Output, milliwatts	500	1000
Line Output, 1 kHz @ 60% RSD, dBm	-20 to 0	-19 to 11
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		\$5,505.76
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		Products & Svcs. Catalog
Prices are based on price list quoted above dated:		7/22/2003
Discount percentage represented by this price is		25%
Delivery - expressed in days after Receipt of Order		42*
Warranty Period - in excess of that required by the specifications (in days)		0
% Tax required		
Components added to the above model to meet required specifications:		
SXHMCXE, XSXSF1W, SXMN3Y, SXMN9C, SXPS5G, SXMN9M, XSXSU3A, SXMC3B, MM120SX, MM210SX		

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
included	Flashing EEPROM	\$0
included	Provision for Field Software Upgrade	\$0
N/A	Duplex Operation Option	N/A
	Secure Encryption Option	
SXVW1J	KIT, DES ENCRYPTION SHELF	\$2,535

**Remote Base Analog**  
**UHF 450-470 Quality Category D**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels	4	4 frequencies
Operational Bandwidth/Maximum Frequency Separation, MHz	20	20
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	1
Channel Spacing, kHz	12.5 / 25	12.5/25
<b>TRANSMITTER</b>		
RF Power Output, Watts	20	100
Radiated Spurious & Harmonic Emission, dB	-57	-66
FM Noise, dB	-40	-55
Audio Distortion, % maximum	5	<3%
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-116	-116
Selectivity, adj. channel (dB), 25/12.5 kHz	-75/-70	-90/-80
Spurious and Image Rejection, dB	-75	-100
Intermodulation, dB	-75	-85/-75
Speaker Audio Output, milliwatts	500	1000
Line Output, 1 kHz @ 60% RSD, dBm	-20 to 0	-19 to 11
Audio Distortion, % maximum	5	3
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-	-
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$6,255.75</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		Products & Svcs. Catalog
Prices are based on price list quoted above dated:		7/22/2003
Discount percentage represented by this price is		25%
Delivery - expressed in days after Receipt of Order		42*
Warranty Period - in excess of that required by the specifications (in days)		0
% Tax required		
Components added to the above model to meet required specifications:		
SXHMCXE, SXSFIW, SXMN3Y, SXMN9C, SXPS5G, SXMN9M, SXSU3A, SXMC3B, MM120SX, MM210SX		

<b>REQUIRED OPTIONS</b>		
<b>Part Number</b>	<b>Description</b>	<b>Price</b>
included	Flashing EEPROM	\$0
included	Provision for Field Software Upgrade	\$0
N/A	Duplex Operation Option	N/A
	Secure Encryption Option	
SXVW1J	KIT, DES ENCRYPTION SHELF	\$2,535

**Mobile Digital**  
**High VHF 136-174 Quality Category B**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	160	255
Operational Bandwidth/Maximum Frequency Separation, MHz	38	38
Frequency Stability (-30 °C to + 60 °C), PPM	2.5	1.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	50	50-110
Radiated Spurious & Harmonic Emission, dB	-70	-70
FM Noise, dB	-40	-40
Audio Distortion, % maximum	3	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-117	-117
Selectivity, adj. channel (dB), 25/12.5 kHz	-75/-70	-85/-70
Spurious and Image Rejection, dB	-75	-90
Intermodulation, dB	-75	-80
Speaker Audio Output, watts	5.0	12
Audio Distortion, % maximum	3	2%
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-117	-116
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$2,456.25</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		Products & Svcs. Catalog
Prices are based on price list quoted above dated:		7/22/2003
Discount percentage represented by this price is		25%
Delivery - expressed in days after Receipt of Order		
Warranty Period - in excess of that required by the specifications (in days)		0
% Tax required		
Components added to the above model to meet required specifications*:		
HG7100HH1E, HGCv, HGPL7H, HGCP7V, HGMCT, HGZN3B		
*equipment security key locking device not included		

REQUIRED OPTIONS		
Part Number	Description	Price
	Desktop/Mobile Conversion Option	
HGMC5A	DESK MICROPHONE	\$90
DSDX01	DESKTOP BASE, LOCAL CONTROL	\$971
DSCE3G	CABLE	\$32
OPTIONAL OPTIONS		
n/a	Second Programmable Receiver with Separate Speaker	\$0
HGMS	FEATURE, ADD DES ENCRYPTION TO P25 MOBILE	\$375
HGFP	Option, FIPS-140-2 Operation	\$225
HGPL5L	Feature, Over the Air Rekeying	\$488
HGAN1R	Antenna,VHF-UHF, 1/4 wave whip	\$19
HGCL1X	Cable,Data Interface	\$49

**Mobile Digital**  
**UHF 450-470 Quality Category B**

	<b>STANDARD SPECIFICATION</b>	<b>BIDDER'S SPECIFICATION</b>
<b>GENERAL</b>		
Number of Channels/Modes/Personalities	160	255
Operational Bandwidth/Maximum Frequency Separation, MHz	20	62
Frequency Stability (-30 °C to + 60 °C), PPM	2	1.5
Channel Spacing, kHz	12.5 / 25	12.5 / 25
RF Input/Output Impedance, Ohms	50	50
<b>TRANSMITTER</b>		
RF Power Output, Watts	40	15-50
Radiated Spurious & Harmonic Emission, dB	-70	-70
FM Noise, dB	-40	-40
Audio Distortion, % maximum	3	2
Audio Response (per TIA/EIA 603)	+1, -3	+1, -3
<b>RECEIVER</b>		
Sensitivity, EIA 12 dB Sinad, dBm	-117	-117
Selectivity, adj. channel (dB), 25/12.5 kHz		-80/-70
Spurious and Image Rejection, dB	0.35	-90
Intermodulation, dB	-80	-80
Speaker Audio Output, watts	5	12
Audio Distortion, % maximum	7.5	2
Static BER sensitivity @ 5% referenced @ 12.5 KHZ, dBm	-117	-116
Audio Distortion, % =<	3	2
Static ber sensitivity @ 5% referenced @ 12.5 KHZ	0.25	-116
<b>Price FOB Destination freight prepaid &amp; included in price</b>		<b>\$2,306.25</b>
<b>OTHER INFORMATION:</b>		
Prices are based on Manufacturer's price list entitled:		Products & Svcs. Catalog
Prices are based on price list quoted above dated:		7/22/2003
Discount percentage represented by this price is		25%
Delivery - expressed in days after Receipt of Order		42*
Warranty Period - in excess of that required by the specifications (in days)		0
% Tax required		
Components added to the above model to meet required specifications:		
HT7100MU1E, HGCV, HGPL7H, HGCP7V, HGMC7T, HGZN3B		
*security key locking device not included		

REQUIRED OPTIONS		
Part Number	Description	Price
	Desktop/Mobile Conversion Option	
HGMC5A	DESK MICROPHONE	\$90
DSDX01	DESKTOP BASE, CONVENTIONAL, LOCAL CONTROL	\$971
DSCE3G	CABLE	\$32
OPTIONAL OPTIONS		
N/A	Second Programmable Receiver with Separate Speaker	\$0
HGMS	FEATURE, ADD DES ENCRYPTION TO P25 MOBILE	\$375
HGFP	Option, FIPS-140-2 Operation	\$225
HGPL5L	Feature, Over the Air Rekeying	\$488
HGAN1R	Antenna,VHF-UHF, 1/4 wave whip	\$19
HGCL1X	Cable,Data Interface	\$49



**Category 4, IP Base Solution M/A COM**

The purpose of this section is to purchase an IT Based solution that has interface adapters for a variety of communications devices and mediums (VHF/UHF radio, telephone or Satcom, HF radio, local operator, etc.). The switch shall consist of a control unit containing all audio and switching circuitry, medium interface connectors, controls and indicators. Accessory adapters for a variety of external communications devices and mediums shall be supported.

See complete specifications at: <http://www.ga.wa.gov/pca/bids/02702-Phase2-Category4.doc>

**PRICE SHEET****Category 4, IP Solution,  
M/A COM****1. Required Equipment Quantities****Table 0-1: Summary of Basic Equipment Quantities**

	Typical Small System Quantities	Typical Medium System Quantities	Typical Large System Quantities
Interoperability Operation Center	1	1	2
System Management Console	1	1	2
Remote Management Console	1	1	2
PSTN Interface	2	10	50
Audio Interface Card	8	40	150
Audio Interface Chassis	2	10	50
Optional Dispatch Consoles	--	--	--
Remote Dispatch Facility (if required)	--	--	--

**2. PRICING**

Bidders shall provide pricing information on the following price forms:

**2.1. Basic System Pricing (backbone)**

Item	Qty	Equipment Description	Price Each	Price Extended
<b>1</b>	Small	Interoperability Operations Center and Audio Interface Interoperability Solution Pricing	\$950,003.00	\$950,003.00
	Medium		\$1,900,013.00	\$1,900,013.00
	Large		\$7,385,050.00	\$7,385,050.00
<b>2a</b>	Small	System Management Equipment and Software	Included above (#1)	Included above (#1)
<b>b</b>	Medium		Included above (#1)	Included above (#1)
<b>c</b>	Large		Included above (#1)	Included above (#1)
<b>3a</b>	Small	Installation and Site Maintenance	\$171,940.00	\$171,940.00
<b>b</b>	Medium		\$368,500.00	\$368,500.00
<b>c</b>	Large		\$1,093,000.00	\$1,093,000.00
<b>4</b>	Lot	Training Including:		
	Small	Operator/User	\$25,440.00	\$25,440.00

Item	Qty	Equipment Description	Price Each	Price Extended
	Medium		\$64,680.00	\$64,680.00
<b>4</b> (cont'd)	Large		\$221,000.00	\$221,000.00
	Small	Technician (Included with Installation)	Included above (#3)	Included above (#3)
	Medium		Included above (#3)	Included above (#3)
	Large		Included above (#3)	Included above (#3)
	Small	Administrator (Customer Employee)	Customer Furnished	Customer Furnished
	Medium		Customer Furnished	Customer Furnished
	Large		Customer Furnished	Customer Furnished
	Small	Console	Not Required	Not Required
	Medium		Not Required	Not Required
	Large		Not Required	Not Required
<b>5</b>	Small	Documentation	Include above (#1)	Include above (#1)
	Medium		Include above (#1)	Include above (#1)
	Large		Include above (#1)	Include above (#1)
<b>6</b>	Small	Project Management	\$49,280.00	\$49,280.00
	Medium		\$104,000.00	\$104,000.00
	Large		\$309,000.00	\$309,000.00
<b>7</b>	Small	Project Engineering (System Engineering)	\$87,080.00	\$87,080.00
	Medium		\$188,600.00	\$188,600.00
	Large		\$578,000.00	\$578,000.00
<b>8</b>	Small	(Optional) Software Services	Please see Pricing Note "E"	Please see Pricing Note "E"
	Medium		Please see Pricing Note "E"	Please see Pricing Note "E"
	Large		Please see Pricing Note "E"	Please see Pricing Note "E"
<b>9</b>	Small	(Optional) Maintenance (Basic System) – Site Maintenance include in with Item #3.	Included above (#3)	Included above (#3)
	Medium		Included above (#3)	Included above (#3)
	Large		Included above (#3)	Included above (#3)

Item	Qty	Equipment Description	Price Each	Price Extended
10	Small	(Optional) Spare Parts (Basic System)	Please see Pricing Note “F”	Please see Pricing Note “F”
	Medium		Please see Pricing Note “F”	Please see Pricing Note “F”
	Large		Please see Pricing Note “F”	Please see Pricing Note “F”
11	Small	(Optional) Test Equipment	N/A- M/A-COM Responsibility	N/A- M/A-COM Responsibility
	Medium		N/A - M/A-COM Responsibility	N/A - M/A-COM Responsibility
	Large		N/A - M/A-COM Responsibility	N/A - M/A-COM Responsibility

### 2.2. Optional System Equipment Pricing

Item	Qty	Equipment Description	Price Each	Price Extended
1	1	Optional Dispatch Equipment (Conventional Desktop Station, if required per final system configuration.)	\$4,875.00	\$4,875.00

<b>Grand Total for Small System</b>	<b><u>\$1,283,743.00</u></b>
<b>Grand Total for Medium System</b>	<b><u>\$2,625,933.00</u></b>
<b>Grand Total for Large System</b>	<b><u>\$9,586,050.00</u></b>

Additional Radios and Master III for use with a Category IV – IP Base solution or a Phase I purchase

Part Number	Description	Quantity	Unit List	P->S %	Unit Sale
MAHG-S8MXX	Mobile,M7100-IP,806-870MHz,35W	1	\$1,625.00	25%	\$1,218.75
MAHG-CP7W	Control Unit,Scan,Remote Mount	1	\$485.00	25%	\$363.75
MAHG-MC7T	Microphone,Standard	1	\$76.00	25%	\$57.00
MAHG-ZN5X	Kit,Accessory,Remote Mount,50W TX & Less	1	\$345.00	25%	\$258.75
					<b>\$1,898.25</b>
HT7150S81X	Portable,P7150,806-870MHz,Scan	1	\$1,820.00	25%	\$1,365.00
HTPA7W	Battery,Nimh,Extra High Capacity	1	\$135.00	25%	\$101.25
HTCH9E	Charger,Desk,Rapid,120/230VAC	1	\$120.00	25%	\$90.00
HTNC1K	Antenna,800MHz,Whip<IS>	1	\$21.00	25%	\$15.75
					<b>\$1,572.00</b>
MM100SX	Manual,Instl,Mastr III ADC Conv	1	\$30.00	25%	\$22.50
MM280SX	Manual,Maint,Conv,ADC Mastr III,800	1	\$60.00	25%	\$45.00

**M/ACom – Phase II**

SX8MCX	STATION,CONV MASTR III,806-870MHZ,100W	1	\$10,060.00	25%	\$7,545.00
SXSF3H	PROGRAMMING,TONE REMOTE/REPEAT	1	\$0.01	25%	\$0.00
SXSF1W	FEATURE,VOTING TONE(1950HZ)	1	\$51.00	25%	\$38.25
SXMN2B	Option,No Cabinet	1	\$100.00	25%	\$75.00
SXMN9C	COVER,SCREEN,T/R SHELF	1	\$16.00	25%	\$12.00
SXMN2C	Kit,Mounting Hardware,39in Cabinet	1	\$9.00	25%	\$6.75
SXPS9R	Power Supply,120VAC,60Hz,12/24VDC	1	\$850.00	25%	\$637.50
SXCJ5E	CABLE,RX ANTENNA,NO RELAY,NO DUPLEXER	1	\$51.00	25%	\$38.25
SXMC3B	MICROPHONE,MOBILE(SERVICE)	1	\$110.00	25%	\$82.50
					<b>\$8,502.75</b>

**NetworkFirst (Small, Medium and Large) System Pricing Notes:**

- A.** The price of the first Network Switching Center (NSC), as well as all necessary Interoperability Gateway chassis and routers, is included with the prices quoted in Item #1 – Interoperability Operations Center and Audio Interface Interoperability Solution Pricing
- B.** NetworkFirst system pricing does not include costs for "last mile" connectivity.
- C.** NetworkFirst system pricing does not include costs for connecting to the customer's LAN/WAN Backbone.
- D.** NetworkFirst system pricing does not include prices for M/A-COM trunked or conventional radios and/or other manufacturers' radios that the customer requires for interoperability network communications.
- E.** (Optional) Software Services: A NetworkFirst software services agreement price quotation will be submitted after completion of the final design review.
- F.** (Optional) Spare Parts (Basic System): The NetworkFirst system pricing submitted in Item #1 (Interoperability Operations Center and Audio Interface Interoperability Solution Pricing) and Item #2 (System Management Equipment and Software) accommodates various system bills of material. A specific bill of material will be selected once the final system configuration has been determined, typically during the final design review. A NetworkFirst spare parts price list, tailored to the customer's specific system configuration requirement, will be supplied after the final design review.
- G.** NetworkFirst System implementation lead-time: 8 - 10 weeks, when preceded by a current customer forecast. Lead-times are a function of lot size and type of equipment requested.
- H.** M/A-COM agrees to provide the customer with retrofits / upgrades needed to correct deficiencies identified during M/A-COM's standard warranty period.
- I.** New models may be added to the contract under the same pricing discounts above based on their MSRP value. M/A-COM may discontinue a product without adding a replacement model.
- J.** Post Contract Award, M/A-COM ensures that changes to equipment or system upgrades will continue to meet published specs. Changes are typically component or board level changes that do not impact radio performance, thus M/A-COM will not send product samples for existing products. M/A-COM agrees to send samples of new products for evaluation.
- K.** M/A-COM's standard service life is one year. M/A-COM extends to WSCA customers the option to purchase post warranty maintenance services.

**Motorola****Contractor:** **Motorola****Note: Correspondence must be addressed to Motorola, C/O Sales Contact.****Contact:** Fred Radovich**Contract Legal  
Issues Contact:****Bruce Marley****Phone:** 425-896-2340

858-404-4326

**Fax:** 425-896-2301

858-404-2594

**Email:** [Fred.Radovich@motorola.com](mailto:Fred.Radovich@motorola.com)[Bruce.Marley@motorola.com](mailto:Bruce.Marley@motorola.com)**Internet address:** [www.motorola.com](http://www.motorola.com)**Web catalog address:****Federal ID No.:** 36-1115800**Supplier No.:** 1074**Total Contract worth:** \$500,000,000.00**Payment address:** **Customers in participating states will be requested to remit their payments to the following address:****Motorola, Inc. 13108 Collections Center Drive, Chicago, IL 60693****Payment address:** Motorola, Inc.  
PO Box 404059  
For Montana Atlanta, GA 30384-4059**Order  
placement  
address:** Motorola, Inc.  
18200 NE Union Hill Rd.  
Suite 200  
Redmond, WA 98052**Customer Service:** Fred Radovich**Telephone:** 425-896-2340**Fax:** 425-896-2301**Ordering procedures:****Credit card acceptance:** Visa, MasterCard**Minimum orders:****Delivery time:** Please refer to individual category for delivery schedule, which varies by product and category bid.**Payment terms:** 0% 30 days**Shipping destination:** Freight on Board (FOB) destination**Freight:** Prepaid and included**Palletization:** N/A**Category****Equipment Line items****Link to bid Specifications**

**Motorola****Link to Price Sheets****Awarded Phase(s)** Phase I

## Glossary Added to Motorola Phase I Award

This Glossary is incorporated in the WSCA Contract and contains definitions of terms contained therein and will supersede and prevail over any contrary terms or definitions in the contract.

Occurrence. An occurrence, as referenced in Section II, Paragraph 38, Limitation of Liability” means only a single sales transaction, including both a purchase of equipment only and a purchase of a system. It does not mean or refer to a claim by a purchaser, end user, or any other entity.

Total Liability. Contractor’s total liability under the contract shall not exceed the following amounts:

1. FOR SYSTEM PURCHASES. THE GREATER OF \$10,000,000 OR THE CONTRACT PRICE OF THE SYSTEM.
2. . FOR EQUIPMENT ONLY PURCHASES. THE LIMITATION OF LIABILITY PROVISION SHALL APPLY NOTWITHSTANDING ANY CONTRARY PROVISION IN THIS AGREEMENT OR ANY ATTACHMENTS, ADDENDUMS, OR EXHIBITS. EXCEPT FOR PERSONAL INJURY OR DEATH, CONTRACTOR’S LIABILITY ARISING FROM THIS CONTRACT WILL BE LIMITED TO THE DIRECT DAMAGES RECOVERABLE UNDER LAW; AND LIMITED TO A TOTAL OF \$10,000,000 (TEN MILLION DOLLARS) OF LIABILITY WITHIN EACH PARTICIPATING STATE, OR THE TOTAL MOTOROLA WSCA CONTRACT 02702 YEARLY (JAN. TO DEC.) SALES IN THE YEAR IN WHICH THE LIABILITY OCCURRED, WHICHEVER IS GREATER. EACH STATE WITH WHOM MOTOROLA HAS SIGNED A PARTICIPATING ADDENDUM IS IDENTIFIED AS A PARTICIPATING STATE.

DIRECT DAMAGES. DIRECT DAMAGES, AS REFERENCED IN SECTION II, PARAGRAPH 38, LIMITATION OF LIABILITY MEANS ACTUAL DIRECT DAMAGES INCURRED AND DOES NOT INCLUDE SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.



**Motorola****WSCA states. PRICING AND ADJUSTMENTS**

Unless otherwise stipulated, all bids must include unit prices and extensions where applicable and be otherwise in the format requested. This will be the baseline pricing to determine offerors score and baseline price level. The State of Washington and participating WSCA states are also looking for additional volume based pricing for consideration. The volume discount program offered will be evaluated using price breaks identified in the Price Sheets per category. If no price break are given by a Proposer(s), then the highest discount rate offer by the Proposer(s), will be used to compare that proposal with Proposer's that offer a volume discount program.

All bid pricing is to be FOB Destination, freight prepaid and included, for any destination within the State of Washington and participating WSCA states, unless stipulated differently in the Communication Equipment Category specification and price sheet section.

Pricing shall remain firm and fixed for the initial 12-months of the contract, unless defined and approved in a Participating Addendum

Adjustments in pricing will be considered after firm fixed price period on a pass through basis only. A minimum of 60 calendar days advance written notice of price increase is required which is to be accompanied by sufficient documentation to justify the requested increase. Documentation must be based on United States published indices such as the Producer Price Index. Acceptance will be at the discretion of the State Procurement Officer and shall not produce a higher profit margin than that established on the original contract pricing. Approved price adjustments shall remain unchanged for at least 365 calendar days thereafter.

During the term of this contract, should the contractor enter into pricing agreements with other customers providing greater benefits or lower pricing, contractor shall immediately amend the state contract to provide similar pricing to the state if the contract with other customers offers similar usage quantities, and similar conditions impacting pricing. Contractor shall immediately notify the state of any such contracts entered into by contractor. When the state is comparing different lower contract pricing the management fee will be deducted from the WSCA contract.

*This provision applies only within WSCA PARTICIPATING STATES (as defined in this document, above) and shall not apply to existing contracts, system packages, or one time equipment purchases, services, or international sales. For purposes of this section, the definition of 'customers' shall not include Contractor's dealers, distributors and resellers, or sales to federal government.*

**Motorola****TECHNICAL ADVANCES/UPGRADES**

During the service life of the equipment, the contractor agrees to install, at no additional cost to the **end user**, all manufacturers' required retrofit upgrades within 90 days of the date the upgrade is introduced by the manufacturer. Required retrofits are all retrofits that are required to keep the equipment operating and functioning as intended at the time of purchase. *"Service Life" as used in this section shall be five years from final inspection and acceptance by the purchaser. This does not including periodic software releases which are intended to offer new features or enhancements not available at the time of original purchase.*

**NEW SYSTEM SOFTWARE AND FIRMWARE UPDATE**

Provide Required Firmware, Software updates at no cost for 5 years after last unit being purchased from this RFP. Required firmware and software updates are all updates that are required to keep the equipment operating and functioning as intended at the time of purchase. *Manufacturers are not responsible for update installation costs. Proposer's shall submit a copy of their software licensing agreement with their proposal. This does not including periodic software releases which are intended to offer new features or enhancements not available at the time of original purchase.*

**SOFTWARE LICENSE:**

Customer and any Purchasing Entity or End User purchasing from this Agreement hereby accept and agree to abide by all of the terms and restrictions of the Motorola Software License Agreement attached to Motorola's bid and incorporated into this agreement, when purchasing or using any Motorola Software or firmware. Any Non-Motorola Software and Open Source Software is licensed to Customer in accordance with the standard license, terms, and restrictions of the copyright owner on the Effective Date.

**SYSTEM SALES:**

If a Purchasing Entity intends to purchase a system using pricing from the WSCA contract, Motorola will prepare a proposal that includes the technical, contractual, and implementation documents that are appropriate for that system. Any system sale will be subject to the specifications of the technical and implementation documents and to the terms of the communications system agreement and its exhibits or other applicable contract documents.

**SUPPORT SERVICES, MAINTENANCE SERVICES, AND PROFESSIONAL SERVICES:**

If a Purchasing Entity intends to purchase services from Motorola, the sale of services will be subject to the terms of the appropriate Motorola maintenance, professional services, or other standard agreement appropriate to the type of services being sold, together with the technical and implementation exhibits applicable to the services.

**Motorola****WARRANTY(IES)**

Proposer(s) will submit a copy of every warranty as an attachment to bid and items delivered under this contract will also be accompanied by a copy of the applicable warranties. Unless otherwise specified, the full parts and labor warranty period shall be for a minimum period of one (1) year after receipt and acceptance of materials or equipment by the Purchaser. *All warranties supplied by the manufacturer shall be consistent with the provisions of the UCC, chapter 62A RCW unless otherwise specified in part 3, equipment Specifications.* All materials or equipment provided shall be new, or refurbished and manufacturer certified, of the latest model or design and of recent manufacture. All tower parts must be new and of the latest design.

Successful contractor(s) shall provide product support (*required to keep equipment operating and functioning as intended at the time of purchase*) for 5 years after last unit being purchased from this RFP.

CONTRACTOR DISCLAIMS ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

*In the event of conflict between contract terms and conditions and any warranty submitted by the contractor, to afford the state maximum benefits, the contract terms and conditions shall prevail.*

WSCA and Motorola agree as follows:

Section 9 of Part III, "Special Terms and Conditions," of WSCA RFP No. 02702 is amended by inserting the words "parts, or accessories" in the second-to-last sentence of the section. As amended the sentence now reads:

This provision applies only within WSCA Participating States (as defined in the document above) and shall not apply to existing contracts, system packages, one time equipment purchases, services, international sales, parts, or accessories.

Contract users may purchase accessories for any listed Motorola radio subscriber unit. Available accessories are listed on the Motorola Electronic Catalog pages associated with each subscriber unit that is available through the contract.

If accessories listed on the Electronic Catalog pages are purchased at the time of purchase of a radio unit, the discount level associated with the radio will apply to the purchased accessories.

If accessories are purchased on a stand-alone basis from the Electronic Catalog pages available on the contract, a 20% discount shall apply to any accessory purchase.

**Amendments Effective July 1, 2006:**

Effective July 1, 2006, Motorola has reduced the prices on all applicable products available through the WSCA Contract by three percent (3%). This price reduction is reflected in the WSCA RFP DISCOUNT MATRIX dated July 1, 2006, attached below and in the list of Representative Radio Models, attached below. No further volume discounts shall apply to Motorola products available on the WSCA Public Safety Radio Contract. Any reference to "volume discount" or "cumulative discount" is struck.

When calculating the price of a product purchased through the WSCA contract, Motorola and WSCA contract users shall use Motorola's then-current price book and apply the discount level indicated in the WSCA RFP

**Motorola**

DISCOUNT MATRIX dated July 1, 2006, which is attached below. In order to conform with the parties' intent to replace the pricing quoted by Motorola in its 2003 RFP 02802 response and ensuing contract with Motorola's current pricing, which shall be updated at least annually, any reference in WSCA RFP or Contract 02702, as amended, to the pricing quoted by Motorola in its 2003 RFP Response shall be replaced with an appropriate reference to Motorola's current price list.

Effective, July 1, 2006, the general WSCA administrative fee for purchases made from the WSCA Public Safety Radio Contract shall be lowered from one and one-half percent (1.5%) to one-half percent (.5%). Administrative fees charged by Participating States shall not be affected by this reduction. The total administrative fee charged by the State of Washington shall be one and one-half percent (1.5%), which includes both the WSCA administrative fee and the State of Washington administrative fee.

**Motorola****MOTOROLA WESTERN DIVISION SALES OFFICES**

WA08 – Redmond, WA 18200 NE Union Hill Rd. Suite 200 Redmond, WA 98052 425-896-2340 fax 425 896-2302	OR02 - Lake Oswego, OR 4900 S.W. Meadows Rd, #475  Lake Oswego, OR 97035 No main phone number. fax 503 697-4670	AZ43 - Phoenix, AZ 2900 South Diablo Wy.  Tempe, AZ 85282 602 271-7500 fax 602 438-1608
CA25 - San Diego, CA (Div HQ) 6420 Sequence Drive San Diego, CA 92121 800 445-3620 toll-free 858 578-2222 direct	CO01 - Engelwood, CO 9800 Mount Pyramid Ct. Suite 200 Englewood, CO 80112 303 689-2800 fax 303 689-2900	TX48 Dallas, TX 2410 Luna Road, Ste 132 Carrollton, TX 75006 972 277-4600 or 800 635-0200 fax 972 277-4611
TX09 - Houston, TX 1140 Cypress Station Suite 300 Houston, TX 77090 281 537-3600 fax 281 537-3617	TX32 - Austin, TX 7700 W. Parmer Lane Bldg., B-PL34 Austin, TX 78729 512 996-6974	CA08 - Los Angeles, CA 312 E. 1st. Street, Suite 520 Los Angeles, CA 90012 No main phone number. fax 213 628-2470
CA18 - Van Nuys, CA 7720 Sepulveda Blvd., Suite B Van Nuys, CA 92450 818 786-1092 fax 818 786-1294	CA78 - Motorola FSO California 10061 Riverside Dr., PMB 1046 Toluca Lake, CA 91602 818 843-3068 fax (same as above)	CA36 - Irvine, CA 1900 Main Street, Suite 300 Irvine, CA 92614 949 399-4000 fax 949 437-4240
CA57 - Irvine, CA (warehouse) 17835 Skypark Circle, Suite C Irvine, CA 92614 949 442-1644 fax 949 474-0196	NM01 - Albuquerque, NM 2501 San Pedro N.E., Suite 202 Albuquerque, NM 87110 505 875-1999 fax 505 875-1888	CA69 - Mountain View, CA 805 E. Middlefield Rd Mountain View, CA 94043 650 318-3200 fax 650-318-3310
Las Vegas, Nevada PO Box 98098 Las Vegas, Nevada 89193 775-853-7862 fax 775-853-0924	CA67 - Los Angeles, CA 725 S Figueroa Ave, Suite 1870 Los Angeles, CA 90017 213 362-6726 fax 213 627-3379	Shawnee, OK 2309 Troon Circle Shawnee, OK 74801 405-395-9448 fax 405-878-6841
Layton, Utah PMB#194 2146 North Main Street, Suite 530 Layton, Utah 84051 801-571-7649 fax 801-571-7258	Billings, Montana 4603 Alkali Creek Road Billings, MT 59106 406-245-3309 fax 406-245-1567	Anchorage, Alaska PO Box 230882 Anchorage, AK 99532 907-261-5170 fax 907-346-4303
Boise, Idaho 11548 W. Rader Dr. Boise, ID 83713 208-377-2080 fax 208-377-2085		

**MOTOROLA REPRESENTATIVE WSCA CONTRACT RADIO MODELS**

Revised 7/1/06

The following Motorola radio models are representative examples of the radios available on the WSCA contract. Contract users are requested to contact Motorola for other versions & frequency bands of each series of radio model. The WSCA RFP required Manufacturer price pages for the complete line of Motorola radios available on the WSCA contract are on file with WSCA Purchasing. The representative prices listed will be higher in states that charge an administrative fee.

The various types of Motorola radios are listed by frequency band first, then by radio category:

<b>MODEL NO.</b>	<b>DESCRIPTION</b>	<b>WSCA CONTRACT PRICE</b>
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**VHF FREQUENCY BAND (136-174 MHZ):****P25 DIGITAL TRUNKED PORTABLE RADIOS:**

H18KEF9PW6_N w/options: Q806,H38,Q361,H14,H301, NNTN4435, NTN1667	XTS5000, VHF, 6 watt, 512 channel, model 2, with charger & spare battery	\$3,735.82
H46KDC9PW5_N w/options: Q574,H301,NTN9815,NTN1667	XTS2500, VHF, 5 watt, 48 channel, model 1, with charger & spare battery	\$1,995.53
H66KDC9PW5_N w/options: Q574,H301,NTN9815,NTN1667	XTS1500, VHF, 5 watt, 16 channel, model 1, with charger & spare battery	\$1,451.40

**P25 DIGITAL TRUNKED MOBILE RADIOS:**

M20KTS9PW1_N w/options: G806,G51,G361,G114,G89,G67, G79,G94,W22,B18	XTL5000, VHF, 110 watt, 512 channel, model W5, remote mount	\$4,119.68
M20KSS9PW1_N w/options: G806,G51,G361,G114,W81,G89,G67, G79,G94,W22,B18	XTL5000, VHF, 50 watt, 512 channel, model W5, remote mount	\$3,753.09
M20KSS9PW1_N w/options: G806,G51,G361,G89,G66,G79,G94, W22,B18	XTL5000, VHF, 50 watt, 512 channel, model W5, front mount	\$3,533.29
M21KTM9PW1_N w/options: G806,G51,G361,G89,G67, G442,G444,W22,B18	XTL2500, VHF, 110 watt, 255 channel, remote mount	\$3,696.56
M21KSM9PW1_N w/options: G806,G51,G361,G89,G67, G442,G444,W22,B18	XTL2500, VHF, 50 watt, 255 channel, remote mount	\$3,286.56

M21KSM9PW1_N w/options: G806,G51,G361,G89,G66, G442,G444,W22,B18	XTL2500, VHF, 50 watt, 255 channel, front mount	\$3,145.52
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M28KSS9PW1_N w/options: G788,G89	XTL1500, VHF, 50 watt, 48 channel, front mount	\$1,828.60
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**P25 DIGITAL CONVENTIONAL PORTABLE RADIOS:**

H18KEF9PW6_N w/options: Q806,H35,H14,H301,NNTN4435,NTN166 7	XTS5000, VHF, 6 watt, 512 channel, model 2, with charger & spare battery	\$2,950.82
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H46KDC9PW5_N w/options: Q811,H301,NTN9815,NTN1667	XTS2500, VHF, 5 watt, 48 channel, model 1, with charger & spare battery	\$1,543.50
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H66KDC9PW5_N w/options: Q811,H301,NTN9815,NTN1667	XTS1500, VHF, 5 watt, 16 channel, model 1, with charger & spare battery	\$1,134.88
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**P25 DIGITAL CONVENTIONAL MOBILE RADIOS:**

M20KTS9PW1_N w/options: G806,G48,G114,G89,G67, G79,G94,W22,B18	XTL5000, VHF, 110 watt, 512 channel, model W5, remote mount	\$3,334.68
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M20KSS9PW1_N w/options: G806,G48,G114,W81,G89,G67, G79,G94,W22,B18	XTL5000, VHF, 50 watt, 512 channel, model W5, remote mount	\$2,968.09
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M21KTM9PW1_N w/options: G806,G48,G89,G67, G442,G444,W22,B18	XTL2500, VHF, 110 watt, 255 channel, remote mount	\$2,876.56
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M21KSM9PW1_N w/options: G806,G48,G89,G66, G442,G444,W22,B18	XTL2500, VHF, 50 watt, 255 channel, front mount	\$2,325.52
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M28KSS9PW1_N w/options: G790,G89	XTL1500, VHF, 50 watt, 48 channel, front mount	\$1,418.60
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**P25 DIGITAL CONVENTIONAL BASE/REPEATER STATION RADIOS:**

T5365 w/options: X530,X806_D,X580,X432	QUANTAR, VHF, 125 watt, 16 channel	\$11,193.49
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T5365 w/options: X330,X806_D,X580,X432	QUANTAR, VHF, 25 watt, 16 channel	\$10,261.79
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**ANALOG CONVENTIONAL PORTABLE RADIOS:**

H67KDC9PW5_N w/options: Q833,H301,NTN9815,NTN1667	MT1500, VHF, 5 watt, 48 channel, with charger & spare battery MT1500 is factory upgradeable to P25 dig.	\$993.30
AAH79KDC9PW5_N w/options: H129,H301CE,NTN9858	PR1500, VHF, 5 watt, 32 channel, with charger & spare battery PR1500 is factory upgradeable to P25 dig.	\$913.50
AAH25KDH9AA6_N w/options: H301,HNN9008_R	HT1250, VHF, 5 watt, 128 channel, with charger & spare battery	\$681.85
AAH25KDC9AA2_N w/options: H301,HNN9008_R	HT750, VHF, 5 watt, 4 channel, with charger & spare battery	\$516.10
AAH50KDC9AA1_N w/options: NNTN4851	CP200, VHF, 5 watt, 4 channel, with charger & spare battery	\$394.40

**ANALOG CONVENTIONAL MOBILE RADIOS:**

AAM79KTD9PW5_N	PM1500, VHF, 110 watt, 255 channel, remote mount	\$1,260.00
AAM25KKD9AA2_N	CDM1250, VHF, 45 watt, 64 channel, front mount	\$534.24

**ANALOG CONVENTIONAL BASE/REPEATER STATION RADIOS:**

T5365 w/options: X530,X597_A,X580,X432	QUANTAR, VHF, 125 watt, 16 channel	\$9,672.74
T5544 w/options: X330,X597,X580,X436,X153	MTR2000, VHF, 40 watt, 32 channel	\$3,699.50

**P25 MIGRATION PLAN GATEWAY SOLUTIONS:**

To be determined for each application	TYPICAL MEDIUM SYSTEM, PER RFP SPECS, AS BID	\$2,488,183.78
To be determined for each application	TYPICAL SMALL SYSTEM, PER RFP SPECS, AS BID	\$1,785,195.50
To be determined for each application	TYPICAL ALTERNATE SMALL SYSTEM, AS BID FOR PHASE 1	\$244,473.89



**MOTOROLA REPRESENTATIVE WSCA CONTRACT RADIO MODELS**

Revised 7/1/06

The following Motorola radio models are representative examples of the radios available on the WSCA contract. Contract users are requested to contact Motorola for other versions & frequency bands of each series of radio model. The WSCA RFP required Manufacturer price pages for the complete line of Motorola radios available on the WSCA contract are on file with WSCA Purchasing. The representative prices listed will be higher in states that charge an administrative fee.

The various types of Motorola radios are listed by frequency band first, then by radio category:

MODEL NO.	DESCRIPTION	WSCA CONTRACT PRICE
<b>UHF FREQUENCY BAND (450-470 MHZ):</b>		
<b>P25 DIGITAL TRUNKED PORTABLE RADIOS:</b>		
H18SDF9PW6_N w/options: Q806,H38,Q361,H14,H301, NNTN4435, NTN1667	XTS5000, UHF, 5 watt, 512 channel, model 2, with charger & spare battery	\$3,735.82
H46SDC9PW5_N w/options: Q574,H301,NTN9815,NTN1667	XTS2500, UHF, 5 watt, 48 channel, model 1, with charger & spare battery	\$1,995.53
H66SDC9PW5_N w/options: Q574,H301,NTN9815,NTN1667	XTS1500, UHF, 5 watt, 16 channel, model 1, with charger & spare battery	\$1,451.40
<b>P25 DIGITAL TRUNKED MOBILE RADIOS:</b>		
M20QTS9PW1_N w/options: G806,G51,G361,G114,G89,G67, G79,G94,W22,B18	XTL5000, UHF, 100 watt, 512 channel, model W5, remote mount	\$4,119.68
M20QSS9PW1_N w/options: G806,G51,G361,G114,W81,G89,G67, G79,G94,W22,B18	XTL5000, UHF, 40 watt, 512 channel, model W5, remote mount	\$3,753.09
M20QSS9PW1_N w/options: G806,G51,G361,G89,G66,G79,G94, W22,B18	XTL5000, UHF, 40 watt, 512 channel, model W5, front mount	\$3,533.29
M21QTM9PW1_N w/options: G806,G51,G361,G89,G67, G442,G444,W22,B18	XTL2500, UHF, 100 watt, 255 channel, remote mount	\$3,696.56
M21SSM9PW1_N w/options:	XTL2500, UHF, 40 watt, 255 channel,	\$3,286.56

G806,G51,G361,G89,G67, G442,G444,W22,B18	remote mount	
M21SSM9PW1_N w/options: G806,G51,G361,G89,G66, G442,G444,W22,B18	XTL2500, UHF, 40 watt, 255 channel, front mount	\$3,145.52
M28SSS9PW1_N w/options: G788,G89	XTL1500, UHF, 45 watt, 48 channel, front mount	\$1,828.60

**P25 DIGITAL CONVENTIONAL PORTABLE RADIOS:**

H18SDF9PW6_N w/options: Q806,H35,H14,H301,NNTN4435,NTN166 7	XTS5000, UHF, 5 watt, 512 channel, model 2, with charger & spare battery	\$2,950.82
H46SDC9PW5_N w/options: Q811,H301,NTN9815,NTN1667	XTS2500, UHF, 5 watt, 48 channel, model 1, with charger & spare battery	\$1,543.50
H66SDC9PW5_N w/options: Q811,H301,NTN9815,NTN1667	XTS1500, UHF, 5 watt, 16 channel, model 1, with charger & spare battery	\$1,134.88

**P25 DIGITAL CONVENTIONAL MOBILE RADIOS:**

M20QTS9PW1_N w/options: G806,G48,G114,G89,G67, G79,G94,W22,B18	XTL5000, UHF, 100 watt, 512 channel, model W5, remote mount	\$3,334.68
M20QSS9PW1_N w/options: G806,G48,G114,W81,G89,G67, G79,G94,W22,B18	XTL5000, UHF, 40 watt, 512 channel, model W5, remote mount	\$2,968.09
M21QTM9PW1_N w/options: G806,G48,G89,G67, G442,G444,W22,B18	XTL2500, UHF, 100 watt, 255 channel, remote mount	\$2,876.56
M21SSM9PW1_N w/options: G806,G48,G89,G66, G442,G444,W22,B18	XTL2500, UHF, 40 watt, 255 channel, front mount	\$2,325.52
M28SSS9PW1_N w/options: G790,G89	XTL1500, UHF, 45 watt, 48 channel, front mount	\$1,418.60

**P25 DIGITAL CONVENTIONAL BASE/REPEATER STATION RADIOS:**

T5365 w/options: X640,X806_D,X580,X432	QUANTAR, UHF, 110 watt, 16 channel	\$12,286.12
T5365 w/options:	QUANTAR, UHF, 25 watt, 16 channel	\$10,854.69

X240,X806\_D,X580,X432

**ANALOG CONVENTIONAL PORTABLE RADIOS:**

H67SDC9PW5_N w/options: Q833,H301,NTN9815,NTN1667	MT1500, UHF, 5 watt, 48 channel, with charger & spare battery MT1500 is factory upgradeable to P25 dig.	<b>\$993.30</b>
AAH79SDC9PW5_N w/options: H301CE,NTN9815	PR1500, UHF, 5 watt, 32 channel, with charger & spare battery PR1500 is factory upgradeable to P25 dig.	<b>\$948.50</b>
AAH25SDH9AA6_N w/options: H301,HNN9008_R	HT1250, UHF, 4 watt, 128 channel, with charger & spare battery	<b>\$717.60</b>
AAH25SDC9AA2_N w/options: H301,HNN9008_R	HT750, UHF, 4 watt, 4 channel, with charger & spare battery	<b>\$548.60</b>
AAH50RDC9AA1_N w/options: NNTN4851	CP200, UHF, 4 watt, 4 channel, with charger & spare battery	<b>\$422.40</b>

**ANALOG CONVENTIONAL MOBILE RADIOS:**

AAM79QTD9PW5_N	PM1500, UHF, 110 watt, 255 channel, remote mount	\$1,330.00
AAM25SKD9PW2_N	CDM1250, UHF, 40 watt, 64 channel, front mount	\$581.76

**ANALOG CONVENTIONAL BASE/REPEATER STATION RADIOS:**

T5365 w/options: X640,X597_A,X580,X432	QUANTAR, UHF, 100 watt, 16 channel	\$10,765.37
T5544 w/options: X340,X597,X580,X436,X153	MTR2000, UHF, 40 watt, 32 channel	\$4,669.00

**P25 MIGRATION PLAN GATEWAY SOLUTIONS:**

To be determined for each application	TYPICAL MEDIUM SYSTEM, PER RFP SPECS, AS BID	\$2,488,183.78
To be determined for each application	TYPICAL SMALL SYSTEM, PER RFP SPECS, AS BID	\$1,785,195.50
To be determined for each application	TYPICAL ALTERNATE SMALL SYSTEM, <b>AS BID FOR PHASE 1</b>	\$244,473.89



**MOTOROLA REPRESENTATIVE WSCA CONTRACT RADIO MODELS**

Revised 7/1/06

The following Motorola radio models are representative examples of the radios available on the WSCA contract. Contract users are requested to contact Motorola for other versions & frequency bands of each series of radio model. The WSCA RFP required Manufacturer price pages for the complete line of Motorola radios available on the WSCA contract are on file with WSCA Purchasing. The representative prices listed will be higher in states that charge an administrative fee.

The various types of Motorola radios are listed by frequency band first, then by radio category:

MODEL NO.	DESCRIPTION	WSCA CONTRACT PRICE
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**800 MHZ FREQUENCY BAND (806-870 MHZ):****P25 DIGITAL TRUNKED PORTABLE RADIOS:**

H18UCF9PW6_N w/options: Q806,H38,Q361,H14,H301, HNN9031, NTN1667	XTS5000, 700/800 MHZ, 3 watt, 512 channel, model 2, with charger & spare battery	\$3,721.69
H46UCC9PW5_N w/options: Q574,H301,NTN9815,NTN1667	XTS2500, 700/800 MHZ, 3 watt, 48 channel, model 1, with charger & spare battery	\$1,995.53
H66UCC9PW5_N w/options: Q574,H301,NTN9815,NTN1667	XTS1500, 700/800 MHZ, 3 watt, 16 channel, model 1, with charger & spare battery	\$1,451.40

**P25 DIGITAL TRUNKED MOBILE RADIOS:**

M20URS9PW1_N w/options: G806,G51,G361,G114,W81,G89,G67, G79,G94,W22,B18	XTL5000, 700/800 MHZ, 35 watt, 512 channel, model W5, remote mount	\$3,753.09
M20URS9PW1_N w/options: G806,G51,G361,G89,G66,G79,G94, W22,B18	XTL5000, 700/800 MHZ, 35 watt, 512 channel, model W5, front mount	\$3,533.29
M21URM9PW1_N w/options: G806,G51,G361,G89,G67, G442,G444,W22,B18	XTL2500, 700/800 MHZ, 35 watt, 255 channel, remote mount	\$3,286.56
M21URM9PW1_N w/options: G806,G51,G361,G89,G66, G442,G444,W22,B18	XTL2500, 700/800 MHZ, 35 watt, 255 channel, front mount	\$3,145.52
M28URS9PW1_N w/options:	XTL1500, 700/800 MHZ, 35 watt,	\$1,828.60

G788,G89

48 channel, front mount

**P25 DIGITAL CONVENTIONAL PORTABLE RADIOS:**

H18UCF9PW6_N w/options: Q806,H35,H14,H301, HNN9031, NTN1667	XTS5000, 700/800 MHZ, 3 watt, 512 channel, model 2, with charger & spare battery	\$2,936.69
H46UCF9PW6_N w/options: Q811,H301,NTN9815,NTN1667	XTS2500, 700/800 MHZ, 3 watt, 512 channel, model 2, with charger & spare battery	\$2,058.00
H46UCC9PW5_N w/options: Q811,H301,NTN9815,NTN1667	XTS2500, 700/800 MHZ, 3 watt, 48 channel, model 1, with charger & spare battery	\$1,543.50
H66UCC9PW5_N w/options: Q811,H301,NTN9815,NTN1667	XTS1500, 700/800 MHZ, 3 watt, 16 channel, model 1, with charger & spare battery	\$1,134.88

**P25 DIGITAL CONVENTIONAL MOBILE RADIOS:**

M20URS9PW1_N w/options: G806,G48,G114,W81,G89,G67, G79,G94,W22,B18	XTL5000, 700/800 MHZ, 35 watt, 512 channel, model W5, remote mount	\$2,968.09
M21URM9PW1_N w/options: G806,G48,G89,G66, G442,G444,W22,B18	XTL2500, 700/800 MHZ, 35 watt, 255 channel, front mount	\$2,325.52
M28URS9PW1_N w/options: G790,G89	XTL1500, 700/800 MHZ, 35 watt, 48 channel, front mount	\$1,418.60

**P25 DIGITAL CONVENTIONAL BASE/REPEATER STATION RADIOS:**

T5365 w/options: X750,X806_D,X580,X432	QUANTAR, 800 MHZ, 100 watt, 16 channel	\$12,823.58
T5365 w/options: X250,X806_D,X580,X432	QUANTAR, 800 MHZ, 20 watt, 16 channel	\$10,771.53

**ANALOG CONVENTIONAL PORTABLE RADIOS:**

H67UCC9PW5_N w/options: Q833,H301,NTN9815,NTN1667	MT1500, 800 MHZ, 3 watt, 48 channel, with charger & spare battery MT1500 is factory upgradeable to P25 dig.	\$993.30
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**ANALOG CONVENTIONAL MOBILE RADIOS:**

M28URS9PW1_N w/options: G790,G89	XTL1500, 700/800 MHZ, 35 watt, 48 channel, front mount	\$1,418.60
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**ANALOG CONVENTIONAL BASE/REPEATER STATION RADIOS:**

T5365 w/options: X750,X597_A,X580,X432	QUANTAR, 800 MHZ, 100 watt, 16 channel	\$11,302.83
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T5544 w/options: X450,X597,X580,X436,X153	MTR2000, 800 MHZ, 75 watt, 32 channel	\$5,579.00
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**P25 MIGRATION PLAN GATEWAY SOLUTIONS:**

To be determined for each application	TYPICAL MEDIUM SYSTEM, PER RFP SPECS, AS BID	\$2,488,183.78
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To be determined for each application	TYPICAL SMALL SYSTEM, PER RFP SPECS, AS BID	\$1,785,195.50
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To be determined for each application	TYPICAL ALTERNATE SMALL SYSTEM, AS BID FOR PHASE 1	\$244,473.89
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<b>WSCA RFP DISCOUNT MATRIX</b>	<b>REVISED 7/1/06</b>		
RADIO MODEL SERIES (REFER TO MANUF. PRICE PAGES):	DISCOUNT %	CALIFORNIA, OREGON DISCOUNT %	OKLAHOMA, KANSAS DISCOUNT %
P25 DIGITAL MOBILE/DESKTOP RADIOS:			
XTL5000 MOBILE	21.5%	20.5%	21%
XTL5000 HIGH PERFORMANCE MOBILE DATA MODEMS	10%	9%	9.5%
XTL2500 MOBILE	18%	17%	17.5%
XTL1500 MOBILE	18%	17%	17.5%
P25 DIGITAL PORTABLE RADIOS:			
ASTRO XTS5000	21.5%	20.5%	21%
ASTRO XTS2500	26.5%	25.5%	26%
ASTRO XTS1500	18%	17%	17.5%
PDR3500 PORTABLE REPEATER	8.5%	7.5%	8%
ANALOG MOBILE/DESKTOP RADIOS:			
PM1500 (P25 UPGRADEABLE)	30%	29%	29.5%
CDM SERIES (750, 1250, 1550, 1550LS+)	28%	27%	27.5%
CM200, CM300	15%	14%	14.5%
PM400	15%	14%	14.5%
ANALOG PORTABLE RADIOS:			
HT1250, HT1250LS+, HT1550XLS	35%	34%	34.5%
HT750	35%	34%	34.5%
EX500, EX600XLS	20%	19%	19.5%
CP100, CP150, CP200	20%	19%	19.5%
MT1500 (P25 UPGRADEABLE)	23%	22%	22.5%
PR1500 (P25 UPGRADEABLE)	30%	29%	29.5%
PR860	20%	19%	19.5%
PR400	15%	14%	14.5%
INFRASTRUCTURE / FIXED EQUIPMENT:			
QUANTAR BASE/REPEATER STATIONS	23%	22%	22.5%
MTR2000 BASE/REPEATER STATIONS	30%	29%	29.5%
DIU-3000 DIGITAL INTERFACE UNITS	15%	14%	14.5%
ASTRO-TAC 3000 VOTING SYSTEM	15%	14%	14.5%
SPECTRA-TAC VOTING SYSTEM	15%	14%	14.5%
QUANTAR VOTING RECEIVERS	15%	14%	14.5%
GOLD ELITE CONSOLES (Gateway)	18.5%	17.5%	18%



TRUNKED CONTROLLERS (Gateway)	18.5%	17.5%	18%
Trident PassPort Trunking Infrastructure	18.5%	17.5%	18%
Trident LTR Trunking Infrastructure	18.5%	17.5%	18%
MOTOBIDGE (Gateway)	10%	9%	9.5%
STR3000 SIMULCAST / DATA BASE STATIONS	15%	14%	14.5%
MCC5500 / MCC7500 CONSOLES	15%	14%	14.5%
CANOPY	10%	9%	9.5%
MCC1000/2000/2500, COMMAND STAR LITE CONSOLES	10%	9%	9.5%
MC3000 DIGITAL DESKTOP CONSOLES	10%	9%	9.5%
STANDALONE ACCESSORIES ORDERED WITHOUT RADIOS	20%	19%	19.5%
Support Services	\$168.75 per hr	\$170.43 /hr	\$169.59 /hr
Installation Services	\$168.75 per hr	\$170.43 /hr	\$169.59 /hr
Repair Services	\$168.75 per hr	\$170.43 /hr	\$169.59 /hr
Most services, such as engineering, program management, training, etc., are usually sold on a per man day basis, rather than an hourly basis, the daily rate is \$1,350. per Man Day (8 hours).			

**Northern Airborne Technology Ltd****CONTRACTOR INFORMATION****Contractor:** [Northern Airborne Technology Ltd](#)**Page number****Contact:** Ray Lewis**Alternate Contact:****Phone:** 250-763-2232**Fax:** 250-762-3374**Email:****Internet address:** [www.northernairborne.com](http://www.northernairborne.com)**Web catalog address:****Federal ID No.:****Supplier No.:** 111923**Contract Worth** \$**Payment address:** Edmo distributors, Inc.  
12830 E. Mirabeau  
Parkway  
Spokane WA. 99216**Order placement address:** Contact Edmo  
Distributors, Inc.  
Ted Augustine  
1 800 828-0623 T(oll  
Free Fax)**Customer Service:** Joel Johnston (EDMO Distributors, Inc)**Telephone:** 1 800 235-3300 509-535-8280**Fax:** 800 828-0623**Ordering procedures:** All orders must include the term "**WSCA CONTRACT ORDER**" prominently shown and be direct to the ATTN: Ted Augustine via EDMO Toll Free Fax at (800)828-0623 or USPS mail.**Credit card acceptance:** Visa - MC**Minimum orders:****Delivery time:** 60 days After Receipt of Order (ARO)**Payment terms:** 0% 30 days**Shipping destination:** Freight on Board (FOB) destination**Freight:** Prepaid and included**Palletization:** N/A**Category** **Category 2, FM Aircraft Radios****Equipment Line items****Link to bid Specifications** <http://www.ga.wa.gov/pca/bids/02702-Phase2-Category2.doc>**Link to Price Sheets****Awarded Phase(s)** Phase I & II

**Northern Airborne Technology Ltd – Phase II****SPECIFICATIONS**

Description
One panel mounted VHF-FM Aeronautical Transceiver (FM-1)
Two-panel mounted VHF-FM Aeronautical Transceiver (FM-1 and FM-2).
Transceiver shall provide operator selection of both wide-band (25 kHz bandwidth/5 kHz modulation) and narrow-band (12.5 kHz bandwidth/2.5 kHz modulation) operation by channel for MAIN and GURARD operation.
Transceiver shall meet the specifications provided in Section J, FS/OAS A-19, AERONUTICAL VHF-FM RADIO TRANSCEIVER SPECIFICATIONS and Section J, FS/OAS A-24; AVIONICS OPERATIONAL TEST PROCEDURES.
Transceiver's operational controls shall be mounted in a location that is convenient to both pilot and co-pilot/observer.
Aircraft having two or more aeronautical VHF-FM radio transceivers need only have a GUARD receiver in the first transceiver (FM-1) unless one is Project 25 digital compliant and the other is not.
The radio MUST have a Supplemental Type Certification (STC) OR have FAA approval to be installed in FAA certified Part 91 aircraft.
The radio shall be capable or operating on up to 255 channels.
The 255 channels shall be any quantity mixture of APCO 25 digital trunked simulcast talk groups and separate conventional mode RF frequencies. It is acceptable for channel capability to be reduced for analog features.

**Northern Airborne Technology Ltd – Phase II****PRICE SHEETS****FM Band Aircraft Radio**

<b>Req. Item</b>	<b>Comm. Code</b>	<b>Description</b>	<b>Unit</b>	<b>Unit Price</b>
1.	5820	One Panel Mounted VHF – FM Aeronautical Transceiver (FM-1) (One per aircraft) Product Bid State: Mfg.: Northern Airborne Technology Model: NPX136D-070 (with guard receiver)	EA	\$10,233.00
2.	5820	Two Panel Mounted VHF – FM Aeronautical Transceiver (FM-1 and FM-2) (Two per Aircraft) Product Bid State: Mfg.: Northern Airborne Technology Model: NPX136D-070 (with guard receiver)	EA	\$10,233.00
3.	5820	VHF-FM (in Two panel Installation) Product Bid State: Mfg.: Northern Airborne Technology Model: NPX136D-000 (without guard)	EA	\$8,343.00

The vendor shall include pricing for all STC or FAA approved optional configurations of transceivers, control head display, aircraft interconnections, control cables, power cables, installation/mounting hardware, programming devices and/or software, and other approved available items not specifically listed here.

**Northern Airborne Technology Ltd – Phase II****VOLUME DISCOUNT PROGRAM - PHASE 2 ALL CATEGORIES**

The volume discount will be cumulative and over the term of the contract.

(Initial Term of Three [3] Years)

<b>Additional Discount off Net Contract Unit Price</b>	<b>Cumulative Total Sales from:</b>	<b>Cumulative Total Sales to:</b>
5 %	\$ 5,000,000	\$ 9,999,999
5 %	\$ 10,000,000	\$ 14,999,999
5 %	\$ 15,000,000	\$ 19,999,999
5 %	\$ 20,000,000	\$ 29,999,999
5 %	\$ 30,000,000	\$ 39,999,999
5 %	\$ 40,000,000	\$ 49,999,999
5 %	\$ 50,000,000	\$ 59,999,999
5 %	\$ 60,000,000	\$ 69,999,999
5 %	\$ 70,000,000	\$ 79,999,999
5 %	\$ 80,000,000	\$ 89,999,999
5 %	\$ 90,000,000	\$ 99,999,999
5 %	\$100,000,000	\$ 100,000,000+

**CONTRACTOR INFORMATION**

<b>Contractor:</b>	<b>Radian Communication Services, Inc</b>		
<b>Page number</b>	<a href="http://www.ga.wa.gov/pca/bids/02702-Phase2-Category6.doc">http://www.ga.wa.gov/pca/bids/02702-Phase2-Category6.doc</a>		
<b>Contact:</b>	Pat Healy	<b>Alternate Contact:</b>	Craig Ahlstrom
<b>Phone:</b>	425-398-5556		309 633-5607
<b>Fax:</b>	425-398-2566		309 633-2693
<b>Cell Phone</b>	206 310-3554		309 453-5022
<b>Email:</b>	<a href="mailto:Pat.Healy@radiancorp.com">Pat.Healy@radiancorp.com</a>		<a href="mailto:craig.ahlstrom@radiancorp.com">craig.ahlstrom@radiancorp.com</a>
<b>Alternate Contact:</b>			
<b>Phone:</b>			
<b>Fax:</b>			
<b>Email:</b>			
<b>Internet address:</b>	<a href="http://www.radiancorp.com/">http://www.radiancorp.com/</a>		
<b>Web catalog address:</b>	<a href="http://www.radiancorp.com/">http://www.radiancorp.com/</a>		
<b>Federal ID No.:</b>	51-0273912		
<b>Supplier No.:</b>	111924		
<b>Total Contract worth:</b>	\$500,000,000.00		
<b>Payment address:</b>	Radian PO Box 17322 Denver, CO 80217	<b>Order placement address:</b>	Radian 22125 17 <sup>th</sup> Ave SE #117 Bothell, WA 98021
<b>Customer Service:</b>	Pat Healey		
<b>Telephone:</b>	425-398-5556		
<b>Fax:</b>	425-398-2566		
<b>Ordering procedures:</b>	See the next pages		
<b>Credit card acceptance:</b>	None		
<b>Minimum orders:</b>			
<b>Delivery time:</b>	45 days After Receipt of Order (ARO)		
<b>Payment terms:</b>	0% 30 days		
<b>Shipping destination:</b>	Freight on Board (FOB) destination		
<b>Freight:</b>	Prepaid and included		
<b>Palletization:</b>	N/A		
<b>Category</b>	Category 6 Communication Towers		
<b>Equipment Line items</b>	Radian Products 20% off list price Rohn Products 40% off list price		
<b>Link to bid Specifications</b>	<a href="http://www.ga.wa.gov/pca/bids/02702-Phase2-Category6.doc">http://www.ga.wa.gov/pca/bids/02702-Phase2-Category6.doc</a>		
<b>Link to Price Sheets</b>	<b>3-LEGGED TRIANGULAR SELF SUPPORT TOWERS</b> Page 206 <b>GUYED TOWERS</b> Page 207		
<b>Engineering Hourly Rate</b>	\$100.00 per hour		
<b>Manufacturing Hourly Rate</b>	\$70.00 per hour		
<b>Field Installation Hourly Rate</b>	\$65.00 per hour		
<b>Material at cost + 15%</b>			
<b>Awarded Phase(s)</b>	Phase I & II		

**Category 6 Communication Towers**  
**SPECIAL TERMS AND CONDITIONS****1. MATERIALS AND WORKMANSHIP**

The Contractor shall be required to furnish all materials, equipment and/or services necessary to perform contractual requirements. Materials and workmanship in the construction of equipment for this contract shall conform to all codes, regulations and requirements for such equipment, specifications contained herein, and the normal uses for which intended. Materials shall be manufactured in accordance with the best commercial practices and standards for this type of equipment. Materials used in the production of any tower must be new.

**2. WARRANTY(IES)**

All materials provided shall be guaranteed by the contractor against mechanical, electrical and workmanship defects. In the event defects become evident within the warranty period, the contractor shall furnish replacement parts and materials at no additional cost to the state. The warranty period shall commence with the date of the communications tower's acceptance and remain in effect for one (1) calendar year, except for expendable items.

The contractor shall provide, within the warranty period and at the bid price, the necessary parts, labor and transportation to maintain the equipment in sufficient state of repair to continue system performance in compliance with the specification contained herein. The contractor shall provide qualified personnel, replacement parts and material to service the equipment at the installed site location within eight (8) hours after the notification of equipment failure. Repairs must be complete within 48 hours.

This warranty period maintenance shall be on a working hour basis as follows: 24 hours per day, 7 days per week.

**Radian Communication Services Inc – Phase II****3-LEGGED TRIANGULAR SELF SUPPORT TOWERS**

Tower in 20 ft Section, top down	Mfg stock number	Tower Costs Material & Freight Only	Climbing Ladder & Anti-Climb Device Material & Labor	Obstruction Lighting System Medium Intensity Material & Labor	Soils Report Costs	Grounding of Tower Base & WG Ladder	Tower Installation Costs Labor Only	Standard Safety Climb Cable Device includes harness, sleeve + Top & Bottom Stops + Install Labor	Rose Safety Climb Rail Device includes sleeve + Top & Bottom Stops + Install Labor	Total \$
Line Item										
1. 20 ft	RS70	\$9,935.00	\$1,161.00	\$0.00	\$3,450.00	INCLUDED	\$2,440.00	\$302.00	\$394.00	\$17,682.00
2. 40 ft	RS70	\$11,850.00	\$1,464.00	\$0.00	\$3,450.00	INCLUDED	\$3,393.00	\$268.00	\$426.00	\$20,851.00
3. 60 ft	RS70	\$13,110.00	\$1,822.00	\$0.00	\$3,450.00	INCLUDED	\$3,813.00	\$455.00	\$692.00	\$23,342.00
4. 80 ft	RS70	\$15,306.00	\$2,140.00	\$0.00	\$3,450.00	INCLUDED	\$5,408.00	\$294.00	\$620.00	\$27,218.00
5. 100 ft	RS70	\$18,444.00	\$2,483.00	\$0.00	\$3,450.00	INCLUDED	\$6,674.00	\$600.00	\$976.00	\$32,627.00
6. 120 ft	RS70	\$21,695.00	\$2,815.00	\$0.00	\$3,450.00	INCLUDED	\$9,989.00	\$325.00	\$794.00	\$39,068.00
7. 140 ft	RS70	\$24,892.00	\$3,144.00	\$0.00	\$3,450.00	INCLUDED	\$12,597.00	\$749.00	\$1,287.00	\$46,119.00
8. 160 ft	RS70	\$30,077.00	\$3,576.00	\$0.00	\$3,450.00	INCLUDED	\$16,886.00	\$359.00	\$887.00	\$55,235.00
9. 180 ft	RS70	\$34,290.00	\$3,805.00	\$0.00	\$3,450.00	INCLUDED	\$18,513.00	\$898.00	\$1,584.00	\$62,540.00
10. 200 ft	RS70	\$42,998.00	\$4,175.00	\$0.00	\$3,450.00	INCLUDED	\$22,079.00	\$388.00	\$1,126.00	\$74,216.00
11. 220 ft	RS70	\$47,799.00	\$4,317.00	\$3,889.00	\$3,450.00	INCLUDED	\$25,735.00	\$929.00	\$1,765.00	\$87,884.00
12. 240 ft	RS75	\$66,113.00	\$4,626.00	\$3,944.00	\$3,450.00	INCLUDED	\$30,887.00	\$421.00	\$1,334.00	\$110,775.00
13. 260 ft	RS75	\$76,334.00	\$4,896.00	\$3,993.00	\$3,450.00	INCLUDED	\$32,817.00	\$1,077.00	\$2,056.00	\$124,623.00
14. 280 ft	RS75	\$95,144.00	\$5,303.00	\$4,060.00	\$3,450.00	INCLUDED	\$37,024.00	\$447.00	\$1,527.00	\$146,955.00
15. 300 ft	RS75	\$102,712.00	\$5,595.00	\$4,090.00	\$3,450.00	INCLUDED	\$39,390.00	\$1,226.00	\$2,355.00	\$158,818.00



**Radian Communication Services Inc – Phase II****GUYED TOWERS**

Tower in 20 ft Section, top down	Mfg stock number	Tower Costs Material & Freight Only	Climbing Ladder & Anti-Climb Device Material & Labor	Obstruction Lighting System Medium Intensity Material & Labor	Soils Report Costs	Grounding of Tower Base & WG Ladder	Tower Installation Costs Labor Only	Standard Safety Climb Cable Device includes harness, sleeve + Top & Bottom Stops + Install Labor	Rose Safety Climb Rail Device includes sleeve + Top & Bottom Stops + Install Labor	Total \$
Line Item										
1. 20 ft	RG33	\$10,684.00	\$1,515.00	\$0.00	\$3,910.00	INCLUDED	\$1,470.00	\$302.00	\$297.00	\$18,178.00
2. 40 ft	RG33	\$12,011.00	\$1,515.00	\$0.00	\$3,910.00	INCLUDED	\$3,184.00	\$250.00	\$388.00	\$21,258.00
3. 60 ft	RG33	\$13,220.00	\$1,515.00	\$0.00	\$3,910.00	INCLUDED	\$4,082.00	\$451.00	\$692.00	\$23,870.00
4. 80 ft	RG33	\$15,142.00	\$1,515.00	\$0.00	\$3,910.00	INCLUDED	\$5,187.00	\$532.00	\$849.00	\$27,135.00
5. 100 ft	RG33	\$16,430.00	\$1,515.00	\$0.00	\$3,910.00	INCLUDED	\$6,365.00	\$600.00	\$989.00	\$29,809.00
6. 120 ft	RG33	\$18,634.00	\$1,515.00	\$0.00	\$3,910.00	INCLUDED	\$6,765.00	\$668.00	\$1,148.00	\$32,640.00
7. 140 ft	RG33	\$21,157.00	\$1,515.00	\$0.00	\$3,910.00	INCLUDED	\$7,084.00	\$751.00	\$1,287.00	\$35,704.00
8. 160 ft	RG33	\$23,078.00	\$1,515.00	\$0.00	\$3,910.00	INCLUDED	\$8,577.00	\$838.00	\$1,474.00	\$39,392.00
9. 180 ft	RG33	\$24,699.00	\$1,515.00	\$0.00	\$3,910.00	INCLUDED	\$9,861.00	\$898.00	\$1,584.00	\$42,467.00
10. 200 ft	RG33	\$26,573.00	\$1,515.00	\$0.00	\$3,910.00	INCLUDED	\$11,873.00	\$921.00	\$1,689.00	\$46,481.00
11. 220 ft	RG33	\$28,372.00	\$1,515.00	\$3,889.00	\$3,910.00	INCLUDED	\$11,093.00	\$929.00	\$1,765.00	\$51,473.00
12. 240 ft	RG33	\$32,441.00	\$1,515.00	\$3,944.00	\$3,910.00	INCLUDED	\$13,534.00	\$1,005.00	\$1,920.00	\$58,269.00
13. 260 ft	RG33	\$37,528.00	\$1,515.00	\$3,993.00	\$3,910.00	INCLUDED	\$14,525.00	\$1,077.00	\$2,056.00	\$64,604.00
14. 280 ft	RG33	\$42,041.00	\$1,515.00	\$4,060.00	\$3,910.00	INCLUDED	\$15,367.00	\$1,168.00	\$2,248.00	\$70,309.00
15. 300 ft	RG33	\$45,449.00	\$1,515.00	\$4,090.00	\$3,910.00	INCLUDED	\$16,136.00	\$1,226.00	\$2,355.00	\$74,681.00

**Radio Frequency System  
CONTRACTOR INFORMATION**

**Category 7 Microwave Antennas, Waveguide & Associated Hardware**

<b>Contractor:</b>	<b>Radio Frequency System</b>		
<b>Contact:</b>	Richard Bogue	<b>Alternate Contact:</b>	Dick Schmidt
<b>Phone:</b>	203-630-3311 x1223		630-218-2720 Ext: 1151
<b>Fax:</b>	203-821-3852		630-218-2728
<b>Email:</b>	Richard.bogue@rfsworld.com		richard.schmidt@rfsworld.com
<b>Internet address:</b>	<a href="http://www.rfsworld.com/">http://www.rfsworld.com/</a>		
<b>Web catalog address:</b>			
<b>Federal ID No.:</b>	13-3379797		
<b>Supplier No.:</b>	10355		
<b>Total Contract worth:</b>	\$500,000,00.00		
<b>Payment address:</b>	First Union National Bank PO Box 601000 M/F: Radio Frequency Systems Charlotte, NC 28260-1000	<b>Order placement address:</b>	<b>Radio Frequency Systems, Inc.</b> One Tower Lane, Suite 1925 Oakbrook Terrace, IL 60181
<b>Customer Service/Order Placement:</b>	Tracey Fetzer, Twyla Lewis or Nanette Cummins		
<b>Customer Service:</b>	Tracey Fetzer, Twyla Lewis or Nanette Cummins		
<b>Telephone:</b>	630-218-2720; Tracey Fetzer (ext. 1164), Twyla Lewis (ext. 1162), Nanette Cummins (ext. 1149)		
<b>Fax:</b>	630-218-2728		
<b>Ordering procedures:</b>	<b>Contact Customer Service/Order Placement/</b>		
<b>Credit card acceptance:</b>	Visa, Master Card, American Express		
<b>Minimum orders:</b>	None		
<b>Delivery time:</b>	30 days After Receipt of Order (ARO)		
<b>Payment terms:</b>	0% 30 days		
<b>Shipping destination:</b>	Freight on Board (FOB) destination		
<b>Freight:</b>	Prepaid and included		
<b>Palletization:</b>	N/A		
<b>Category</b>	7		
<b>Equipment Line items</b>	See Price Sheets and note surcharge below. If comparing contract pricing please note if contractor includes surcharges that apply throughout the industry.		
<b>Link to bid Specifications</b>	<a href="http://www.ga.wa.gov/pca/bids/02702-Phase2-Category7.doc">http://www.ga.wa.gov/pca/bids/02702-Phase2-Category7.doc</a>		
<b>Link to Price Sheets</b>			
<b>Awarded Phase(s)</b>	Phase I & II		
<b>Additional Distributors</b>	<b>HUTTON COMMUNICATIONS</b> <b>TESSCO</b>		<b>Page 181</b> <b>Page 181</b>

**REPAIR FACILITIES**

In the event that an item should need repair, the Sales Administrator will provide the customer with a Return Material Authorization (RMA) number. The sales administrator then records all pertinent information into RFS' database and advises the customer of the correct location to which the material must be shipped. Note that the RMA number must be clearly marked on the outside of the shipping container.

**Radio Frequency System**

When the material arrives at the designated location, the receiving department updates the system showing the return as "Received". The material is then forwarded for evaluation. After the evaluation is complete, the database is again updated. Computer generated reports are issued on a daily basis to advise sales of the status of all returns.

Once sales has received the evaluation, a course of action takes place based on the reason for the return and the quality assurance evaluation. The customer is then notified and the item is either repaired or replaced. All repairs are made by RFS employees at RFS facilities.

All returns should be sent to the following locations:

Antennas and Dehydrators

Radio Frequency Systems, Inc  
175 Corporate Court  
Meriden, CT 06450

Cable, Connectors, Jumpers & Accessories

Radio Frequency System, Inc.  
29 Research Parkway  
Wallingford, CT 06492

**CONTACTS AND PHONE NUMBERS (Revised)**

STATE	CONTACT NAME	PHONE NUMBER
Alaska	Tracey Fetzer	630-218-2720 ext 1164
Arizona	Twyla Lewis	630-218-2720 ext 1162
Northern California	Nanette Cummins	630-218-2720 ext 1149
Southern California	Nanette Cummins	630-218-2720 ext 1149
Colorado	Twyla Lewis	630-218-2720 ext 1162
Georgia	Rick Barbieri	203-630-3311 ext 1096
Hawaii	Tracey Fetzer	630-218-2720 ext 1164
Idaho	Tracey Fetzer	630-218-2720 ext 1164
Minnesota	Tracey Fetzer	630-218-2720 ext 1164
Montana	Tracey Fetzer	630-218-2720 ext 1164
Northern Nevada	Nanette Cummins	630-218-2720 ext 1149
Southern Nevada	Nanette Cummins	630-218-2720 ext 1149
New Mexico	Twyla Lewis	630-218-2720 ext 1162
Oklahoma	Nanette Cummins	630-218-2720 ext 1149
Oregon	Tracey Fetzer	630-218-2720 ext 1164
South Dakota	Tracey Fetzer	630-218-2720 ext 1164
Utah	Twyla Lewis	630-218-2720 ext 1162
Washington	Tracey Fetzer	630-218-2720 ext 1164
Wyoming	Twyla Lewis	630-218-2720 ext 1162

## Radio Frequency System

**Raw Material Surcharge Price List USD/ft**

Model Number	Surcharge [\$/ft]	Model Number	Surcharge [\$/ft]
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**CELLFLEX**

SCF14-50	0.06
SCF38-50	0.15
SCF12-50	0.16
SCF78-50	0.47
UCF78-50	0.31
UCF114-50	0.63
LCF14-50	0.06
LCF38-50	0.10
LCF12-50	0.13
LCF58-50	0.30
LCF78-50	0.35
LCFS114-50	0.67
LCF158-50	0.70
LCF214-50	1.10

**RADIAFLEX**

Cable Type: ALF, RLF, RLK, RLV, RAY

**Nominal Size**

12	0.06
58	0.23
78	0.26
114	0.41
158	0.41

Cable Type: RSF, RCF

**Model Number**

RSF12-50	0.16
RCF12-50	0.13
RCF78-50	0.34
RCF114-50	0.67
RCF158-50	0.70

**FLEXWELL**

E20	3.99
E30	2.62
E38/EP38	1.62
E46/EP46/ESP46	1.22
EP58	0.86
E60/60	0.85
E65/EP65	0.80
EP70	0.74
E78/EP78	0.71
EP100	0.55
E105/EP105	0.53
E130/EP130	0.39
E150/EP150	0.34
E185/EP185	0.27
E220	0.23
E250	0.15
E300	0.13
E380	0.10
EO11	0.94
EO15	0.75
EO19	0.53
EO22	0.32
EO38	0.13

**HELIFLEX**

HCA38-50	0.33
HCA12-50	0.15
HCA58-50	0.74
HCA78-50	0.75
HCA118-50	1.03
HCA158-50	1.30
HCA214-50	1.58
HCA295-50	2.54
HCA300-50	1.97
HCA318-50	3.43
HCA418-50	4.40
HCA500-50	7.53
HCA618-50J	9.75
HCA800-50J	17.04

**Jumper**

Example: Jumper SCF12-50 7M7MS12-060P 6ft x 0.16\$/ft = 0.96\$

The above surcharges are based on LME values on copper between 5500 and 7000 USD per mt.

Raw Material Surcharges for Jumpers are equivalent to Cable Surcharges.

<b>HUTTON COMMUNICATIONS</b>			
Main Contact (inside): Lisa Hensley 866-270-8808 henslyl@huttoncom.com		Secondary Contact: Tammy Coones 877-648-8866 coonest@huttoncom.com	Customer Service MGR: Spencer Peart 972-417-0266 <a href="mailto:peartp@huttoncom.com">peartp@huttoncom.com</a>
Payment address: Hutton Communications P.O. Box 201439 Dallas, TX 75320		Order placement address: Hutton Communications 2520 Marsh Lane Carrollton, TX 75006  Order placement fax: 877-762-8274	Internet address: <a href="http://www.huttononline.com">http://www.huttononline.com</a>
<b>TESSCO</b>			
Main Contact:	Glenn Frame	Secondary Contact:	John Hunt
Address:	11126 McCormick Road Hunt Valley, MD 21031	Address:	4775 Aircenter Cr. Reno, NV 89502
Phone Numbers:	410-229-1344	Phone Numbers: Fax:	1 -888 821 0591 1 775-689 5557
Email:	<a href="mailto:frame@tessco.com">frame@tessco.com</a>	Email:	<a href="mailto:huntj@tessco.com">huntj@tessco.com</a>

**Radio Frequency System****General**

This specification covers the latest state of the art Microwave Antennas and Associated Equipment of use in specified frequency bands to meet the needs of the State of Washington, its departments and agencies, universities, colleges, community colleges and schools and all political subdivisions.

**Classification**

All antennas, transmission line connectors and associated hardware selected as suitable for purchase will be given classification within the frequency band groups as follows:

Frequency Band

0932	-	0960	MHz
2110	-	2200	MHz
2290	-	2500	MHz
5725	-	5850	MHz
5925	-	6875	MHz
10.7	-	11.7	GHz
17.7	-	19.7	GHz
21.8	-	23.6	GHz

**Standards**

1. Part 101, Federal Communications Commission (FCC) Rules and Regulations and amendments; E. I. A. Standards and amendments, RS222.(Latest Version)
2. These specifications are exclusive of any and all equipment with proprietary items, components or devices inclusive therein. All technical tolerances, ratings, or any technically specified criteria contained within this specification are within the current state-of-the-art and are currently being met by commercially available equipment.
3. All material and workmanship will be of the type and grade most suitable for the application. All material will be free from defects, of current design, of recent manufacture and unused.
4. The State of Washington reserves the right to reject any bid proposing equipment that has proven in actual use and properly documented to be unreliable or unsuitable for the work to be accomplished and /or has shown that the operating or maintenance costs of which have been excessive in comparison with other makes of similar equipment working under like conditions.
5. All material and equipment furnished will be subject to approval by the State of Washington, Department of General Administration, Office of State Procurement, including engineers selected to review the products with regard to design, operation, performance and requirements of this specification. The acceptance of equipment or parts thereof will in no way relieve the contractor of responsibility for furnishing equipment that meets this specification in all detail.
6. Should any of the inspections, tests, or operation of the equipment under service conditions show the equipment does not meet the requirements of the specifications, the State will reject the equipment or parts thereof and require the contractor to make changes as necessary to meet the requirements of the specifications at the expense of the contractor.
7. The contractor(s) will hold and save the State, its officers, agents, servants, and employees harmless from liability of any nature of kind, including costs and expense, for or on account of any patented or unpatented invention, articles, or appliance manufactured or used in the performance of any and all contracts encompassing these specifications.
8. Unless specifically excepted by the terms of these specifications, any part or accessories ordinarily furnished or required to make the equipment, herein specified, a complete operating unit will be furnished by the contractor whether identified in these specifications or not.

**Radio Frequency System**

9. All units will be delivered to the purchaser with any and all equipment modifications intact and installed.

**Technical Manuals**

1. The contractor will make available equipment documentation to purchasers in any quantity specified by the purchaser over and above the quantity specified herein. This documentation will accompany the equipment at the time of delivery or may be delivered prior to equipment delivery. Documentation costs for purchaser specified manuals will be included as separate bid items. A copy of radiation patterns will be provided at not cost if requested.

**Service, Installation and Operation Manuals**

Installation and or operator manuals will be furnished with each order. Each manual will contain:

1. Complete diagrams including information outlining method of operation, supply voltages and currents and power requirements for each model of dehydrators.
2. Detailed drawings or clear photographs showing location of parts and hardware associated with antenna assembly or mounting.

**Equipment Service Life**

1. All equipment covered by these specifications and any resultant contracts will have a minimum service life of ten (10) years from date of delivery to the purchaser. The contractor will guarantee replacement parts stocking by the vendor and/or authorized distributor for this service life period.

**Equipment and Parts Warranty**

1. Each contractor will guarantee repair or replacement of any equipment or part thereof that fails in operation during normal and proper use within two (2) years from the date of purchaser's receipt due to defects in design, material or workmanship, consummation of final acceptance and payment notwithstanding. These replacements will be made with celerity and without charge to the purchaser. The cost of installation of these replacements will be borne by the contractor for the period of the warranty.
2. Any equipment or part replaced under the provisions of this warranty becomes the property of the contractor. If the vendor desires the defective equipment or part returned, the contractor will pay all transportation charges and make all arrangements for the return. If the contractor does not specifically request return of such replaced parts within thirty (30) days from the date of replacement, the equipment for parts become property of the purchaser.
3. Replacement parts will be regularly stocked by the contractor and/or authorized distributor. Delay in purchaser's receipt of replacement parts will not exceed ten (10) consecutive days from contractor's or distributor's receipt of order.
4. The contractor will guarantee delivery of emergency orders within forty-eight (48) hours from receipt of order. Emergency orders will be transported by the most expedient manner available with the transportation cost born by the purchaser less normal shipping cost.
5. The contractor will supply the purchaser, free of charge for the service life of the equipment, with all data, drawings, and specifications of modifications, plans or experiments by which the equipment may be improved or modernized.

**Radio Frequency System****General Equipment characteristics**

The following characteristics apply to all equipment unless otherwise specified.

**Environmental**

1. All antennas will survive wind velocities of 125 miles per hour with one (1) inch of radial ice and no more than 0.1 degree of deflection in 70 mile per hour wind.
2. All antennas will remain operational within the temperature range of -58°F to 155°F.
3. All antennas and associated hardware will be non-corrosive, non-rust material. This can be accomplished by supplying Hot Dipped Galvanized or Stainless Steel hardware. Plated steel will not be accepted. Aluminum antennas will be painted with corrosion resistant paint.
4. Field assembly of all antennas shall only be between antenna parabola, feed, antenna mount and fixed and/or slide assemblies. There shall be no field assembly parabola for that is too time consuming. Antenna mount assembly is permitted.
5. Parabolic solid antennas shall be equipped to include mounting hardware for a 4.5" vertical O.D. mounting pipe. Parabolic grid antennas shall be equipped to include mounting hardware for either a 1.9" – 3.5" or a 4.5" vertical O.D.(Outside Diameter) mounting pipe.
6. For parabolic solid antenna shall have a reflector surface tolerance designed to 15GHz so that antenna feeds could be interchanged between 2GHz and 10 GHz without loss to antenna gain. The same like between antenna feeds in the 18GHz and 23GHz bands.

**Operational Characteristics**

Material and workmanship will be of the type and grade most suitable for the application and will conform as a minimum unless otherwise specified to the latest applicable standards, specifications, recommended practices and procedures of such standardizing bodies as the I.E.E.E., E.I.A., N.E.M.A., F.C.C.



**Radio Frequency System – Phase II****CATEGORY 7 PRICE SHEETS**

<b>Contractor</b>	<b>Category 7 Waveguides and Antennas</b>
<b>Radio Frequency Systems</b>	<a href="http://www.ga.wa.gov/pca/bids/02702-Phase2-Category7.doc">http://www.ga.wa.gov/pca/bids/02702-Phase2-Category7.doc</a>

**ANTENNAS**

The specifications listed herein are minimum requirements; a range variance of up to a maximum of .9DB has been identified as acceptable.

**A. Welded Grid Antenna. 928-960 MHz. Type “N” Female input connector.**

Diameter in Feet	Gain DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam width in °s	Cross Pol Disc. DB	F/B Ratio DB	VSRW	RFS P/N	PRICE EACH
4.0	18.3	18.6	19.1	B	17.4	25	21	1.4	<b>MGA4-082N</b>	<b>\$632.50</b>
6.0	21.2	21.3	21.6	A	12.6	25	30	1.4	<b>MGA6-082N</b>	<b>\$1,144.00</b>
8.0	23.7	24.4	25.0	A	9.0	26	24	1.35	<b>GKL8-082N</b>	<b>\$1,628.00</b>
10.0	25.6	26.3	27.0	A	7.2	26	27	1.35	<b>GKL10-082N</b>	<b>\$1,974.50</b>
12.0	27.4	28.2	28.8	A	5.9	26	30	1.3	<b>GKA12-082M</b>	<b>\$3,184.50</b>

**B. Solid Parabolic Reflector Standard Antenna, 928-960 MHz, 7/8” EIA Flange or Type “N” Female Input Connector**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH.
4.0	18.1	18.4	18.8	B	19.5	10	22	1.3	<b>PAF4-890AE</b>	<b>\$777.60</b>
6.0	21.6	22.1	22.3	A	13.0	15	25	1.3	<b>PAF6-890AE</b>	<b>\$931.20</b>
8.0	24.1	24.5	24.8	A	9.7	15	27	1.3	<b>PAF8-890AE</b>	<b>\$1,382.40</b>
10.0	26.1	26.4	26.7	A	7.7	15	29	1.3	<b>PAF10-890AE</b>	<b>\$2,112.00</b>
12.0	27.6	28.0	28.3	A	6.4	15	30	1.3	<b>PAF12-890AE</b>	<b>\$3,686.40</b>

**C. Welded Grid Antenna 2.1-2.2 GHz, 7/8” EIA Flange or Type “N” Female Input Connector. “AIR DIELECTRIC FEED”**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4.0	25.6	26.8	27.2	B	8.0	29	34	1.3	<b>MGA4-19N</b>	<b>\$632.50</b>
6.0	28.5	29.3	30.1	A	5.4	32	35	1.2	<b>MGA6-19N</b>	<b>\$1,144.00</b>
8.0	31.0	31.8	32.6	A	4.1	35	41	1.2	<b>GKL8-19N</b>	<b>\$1,628.00</b>
10.0	32.9	33.8	34.6	A	3.2	35	45	1.2	<b>GKL10-19N</b>	<b>\$1,974.50</b>
12.0	34.7	35.6	36.4	A	2.6	40	47	1.2	<b>GKA12-19N</b>	<b>\$3,184.50</b>
15.0	36.6	37.5	38.3	A	2.1	40	49	1.2	<b>GPW15-19N</b>	<b>\$12,223.75</b>

**Radio Frequency System – Phase II****D. Welded Grid Antenna 2.1-2.2 GHz, 7/8” EIA Flange or Type “N” Female Input Connector. “FOAM FEED”****NOTE: NON PRESSURIZED FEEDS ARE NOT AVAILABLE SEE ABOVE**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4.0	26.5	26.7	26.9	B	7.9	29	32	1.3	N/A	\$
6.0	30.3	30.5	30.7	A	5.3	32	35	1.2	N/A	\$
8.0	32.0	32.2	32.4	A	4.0	35	39	1.2	N/A	\$
10.0	33.8	34.0	34.2	A	3.2	35	41	1.2	N/A	\$
12.0	35.3	35.5	35.7	A	2.6	40	44	1.2	N/A	\$
15.0	37.3	37.5	37.7	A	2.1	40	46	1.2	N/A	\$

**E. Solid Parabolic Standard Antenna 2.1-2.2 GHz, 7/8” EIA Type “N” Female Input Connector.**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4.0	24.8	25.7	26.6	B	8.1	27	33	1.2.	PAL4-19AN	\$844.80
6.0	28.7	29.6	30.5	B	5.5	30	37	1.15	PAL6-19AN	\$1,017.60
8.0	31.2	32.1	33.0	A	4.1	30	40	1.1	PAL8-19AN	\$1,449.60
10.0	33.1	34.0	34.9	A	3.3	30	43	1.1	PAL10-19AN	\$2,198.40
12.0	34.7	35.6	36.5	A	2.8	30	45	1.1	PAL12-19AN	\$3,979.20
15.0	36.4	37.3	38.3	A	2.2	30	49	1.0	PAL15-19AN	\$10,512.00

**F. Solid Parabolic Standard Antenna 6.425-7.125 GHz, CPR 137G Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4.0	35.9	36.4	36.8	-	2.5	30	43	1.08	PAL4-65AC	\$844.80
6.0	39.4	39.9	40.3	B	1.7	30	47	1.06	PAL6-65AC	\$1,017.60
8.0	41.6	42.1	42.5	A	1.3	30	59	1.06	PAD8-65AC	\$1,608.00
	42.0	42.4	42.9	B	1.2	30	49	1.06	PAL8-65AC	\$1,449.60
10.0	43.5	43.9	44.3	A	1.0	30	52	1.06	PAD10-65AC	\$2,304.00
	43.7	44.1	44.6	B	1.1	30	63	1.06	PAL10-65AC	\$2,198.00
12.0	45.3	45.8	46.2	A	0.8	30	70	1.06	DA12-65AC	\$6,020.00

**Radio Frequency System – Phase II****G. Solid Parabolic Dual Polarized Standard Antenna 6.425-7.125 GHz, CPR 137G Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
6.0	39.2	39.7	40.1	B	1.7	30	47	1.06	PAX6-65AC	\$1,670.40
8.0	41.4	41.9	42.3	A	1.2	30	59	1.06	PADX8-65AC	\$2,145.60
10.0	43.5	43.9	44.4	A	1.0	30	52	1.06	PADX10-65AC	\$2,832.00
12.0	45.1	45.6	46.0	A	0.8	30	71	1.06	DAX12-65AC	\$6,468.00

**H. Single Polarized Antenna, 6.425-7.125 GHz, CPR 137G Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4.0	35.6	36.0	36.5	-	2.5	30	58	1.08	DA4-65AC	\$1,536.00
6.0	39.4	39.8	40.2	B	1.7	30	64	1.06	DA6-64AC	\$2,820.00
8.0	41.9	42.3	42.8	A	1.3	30	66	1.06	DA8-65AC	\$3,498.00
10.0	43.7	44.1	44.6	A	1.0	30	69	1.06	DA10-65AC	\$4,444.00
12.0	45.3	45.8	46.2	A	0.8	30	70	1.06	DA12-65AC	\$6,020.00

**I. Dual Polarized Antenna, 6.425-7.125 GHz, CPR 137G Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4.0	34.8	35.3	35.7	-	2.5	30	58	1.10	DAX4-65AC	\$1,794.00
6.0	39.1	39.5	39.9	A	1.7	30	64	1.07	DAX6-65AC	\$2,990.00
	39.2	39.7	40.1	B	1.7	30	47	1.06	PAX6-65 AC	\$1,670.40
8.0	41.6	42.0	42.4	A	1.3	34	68	1.06	DAX8-65AC	\$3,684.00
	41.8	42.2	42.7	B	1.3	30	52	1.06	PAX8-65 AC	\$1,987.20
10.0	43.6	44.0	44.4	A	1.0	34	70	1.06	DAX10-65AC	\$4,804.00
	43.5	43.9	44.4	B	1.0	30	58	1.06	PAX10-65AC	\$2,515.20
12.0	45.1	45.6	46.0	A	0.8	30	71	1.06	DAX12-65AC	\$6,468.00

**J. Single Polarized Parabolic Antenna, 10.7-11.7 GHz, CPR 90G Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4.0	40.1	40.5	40.9	B	1.6	30	62	1.08	DA4-107AC	\$1,536.00
6.0	43.5	43.9	44.3	B	1.0	30	60	1.06	PAD6-107AC	\$1,080.00
8.0	46.0	46.4	46.8	A	0.7	30	62	1.06	PAD8-107AC	\$1,608.00
10.0	47.9	48.3	48.5	A	0.7	30	64	1.06	PAD10-107AC	\$2,304.00
12.0	49.4	49.8	50.0	A	0.5	30	71	1.06	DA12-107AC	\$6,020.00

**Radio Frequency System – Phase II****K. Dual Polarized Parabolic Antenna, 10.7-11.7 GHz, CPR 90G Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4.0	40.0	40.4	40.8	A	1.5	30	64	1.10	<b>DAX4-107AC</b>	<b>\$1,794.00</b>
6.0	43.4	43.8	44.2	A	1.0	30	60	1.08	<b>PADX6-107AC</b>	<b>\$1,728.00</b>
8.0	45.9	46.3	46.7	A	0.8	30	62	1.08	<b>PADX8-107AC</b>	<b>\$2,145.60</b>
10.0	47.8	48.2	48.4	A	0.7	30	64	1.08	<b>PADX10-107AC</b>	<b>\$2,832.00</b>
12.0	49.2	49.6	49.9	A	0.5	30	72	1.06	<b>DAX12-107AC</b>	<b>\$6,468.00</b>

**L. Single Polarized Parabolic Antenna, 10.7-11.7 GHz, CPR 90G Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4.0	40.1	40.5	40.9	A	1.6	30	62	1.08	<b>DA4-107AC</b>	<b>\$1,536.00</b>
6.0	43.7	44.0	44.5	A	1.0	30	70	1.06	<b>DA6-107AC</b>	<b>\$2,820.00</b>
8.0	46.1	46.4	46.9	A	0.8	30	71	1.06	<b>DA8-107AC</b>	<b>\$3,498.00</b>
10.0	48.0	48.4	48.6	A	0.7	30	71	1.06	<b>DA10-107AC</b>	<b>\$4,444.00</b>
12.0	49.4	49.8	50.0	A	0.5	30	72	1.06	<b>DA12-107AC</b>	<b>\$6,020.00</b>

**M. Dual Polarized Parabolic Antenna, 10.7-11.7 GHz, CPR 90G Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4.0	40.0	40.4	40.8	A	1.5	30	64	1.10	<b>DAX4-107AC</b>	<b>\$1,794.00</b>
6.0	43.5	43.8	44.3	A	1.0	30	68	1.08	<b>DAX6-107AC</b>	<b>\$2,990.00</b>
8.0	45.9	46.2	46.7	A	0.8	30	69	1.06	<b>DAX8-107AC</b>	<b>\$3,684.00</b>
10.0	47.8	48.2	48.4	A	0.7	30	70	1.06	<b>DAX10-107AC</b>	<b>\$4,804.00</b>
12.0	49.2	49.6	49.9	A	0.5	30	72	1.06	<b>DAX12-107AC</b>	<b>\$6,468.00</b>

**N. Single Polarized Parabolic Antenna, 17.7-19.7 GHz, UG-595/U Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
2.0	38.1	38.6	39.1	A	1.9	32	62	1.20	<b>SU2-190AZ</b>	<b>\$360.00</b>
4.0	44.1	44.6	45.1	A	0.9	32	67	1.20	<b>SU4-190AZ</b>	<b>\$896.00</b>
	44.3	44.8	45.3		0.9	32	53	1.20	<b>SP4-190AZ</b>	<b>\$739.00</b>
6.0	47.5	48.0	48.5	A	0.7	32	71	1.20	<b>SU6-190AZ</b>	<b>\$1,596.00</b>
	47.7	48.2	48.7		.07	32	57	1.20	<b>SP6-190AZ</b>	<b>\$852.00</b>

**Radio Frequency System – Phase II****O. Single Polarized Parabolic Antenna, 21.2-23.6 GHz, UG-595/U Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
2.0	39.6	40.1	40.6	A	1.6	32	66	1.20	SU2-220AZ	\$360.00
4.0	45.6	46.1	46.6	A	0.8	32	72	1.20	SU4-220AZ	\$896.00
	45.8	46.3	46.8		0.8	32	58	1.20	SP4-220AZ	\$739.20
6.0	49.0	49.5	50.0	A	0.5	32	75	1.15	SU6-220AZ	\$1,596.00
									SP6-220AZ	\$852.00

**HIGH Performance and Ultra High Performance****A. High Performance, 6.425-7.125 GHz, Single Polarization, CPR 137G Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4.0	35.4	36.0	36.5	-	2.5	30	58	1.08	DA4-65AC	\$1,536.00
6.0	39.4	39.8	40.2	A	1.7	30	64	1.06	DA6-65AC	\$2,820.00
8.0	41.9	42.3	42.8	A	1.3	30	66	1.06	DA8-65AC	\$3,498.00
10.0	43.7	44.1	44.6	A	1.0	30	70	1.06	DA10-65AC	\$4,444.00
12.0	45.3	45.8	46.2	A	0.8	30	71	1.05	DA12-65AC	\$6,020.00
15.0	47	47.5	47.9	A	0.7	30	71	1.06	DA15-65AC	\$9,780.00

**B. High Performance, 6.425-7.125 GHz, Dual Polarization, CPR 137G Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4.0	34.8	35.3	35.7	-	2.5	30	58	1.08	DAX4-65AC	\$1,794.00
6.0	39.2	39.7	40.1	A	1.7	30	64	1.06	DAX6-65AC	\$2,990.00
8.0	41.8	42.2	42.7	A	1.3	30	68	1.06	DAX8-65AC	\$3,684.00
10.0	43.5	43.9	44.4	A	1.0	30	70	1.06	DAX10-65AC	\$4,804.00
12.0	45.1	45.6	46.0	A	0.8	30	71	1.05	DAX12-65AC	\$6,468.00
15.0	47	47.5	47.9	A	0.7	30	71	1.06	DAX15-65AC	\$10,864.00

**Radio Frequency System – Phase II****C. High Performance, 6.425-7.125 GHz, Dual Polarization, Super Cross Polarization CPR 137G Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
6	39.2	39.7	40.1	A	1.7	40	69	1.08	UXA6-65AC	\$3,900.00
8	41.8	42.2	42.7	A	1.3	40	71	1.06	UXA8-65AC	\$4,900.00
10	43.5	43.9	44.4	A	1.0	40	74	1.06	UXA10-65AC	\$5,940.00
12	45.1	45.6	46.0	A	0.8	40	76	1.06	UXA12-65AC	\$8,094.00
15	47.0	47.5	47.9	A	0.7	40	77	1.05	UXA15-65AC	\$12,296.00

**D. Ultra High Performance, 6.425-7.125 GHz, Dual Polarization, CPR 137G Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
6	39.2	39.7	40.1	A	1.7	30	69	1.08	UDA6-65AC	\$2,408.00
8	41.8	42.2	42.7	A	1.3	30	71	1.06	UDA8-65AC	\$3,900.00
10	43.5	43.9	44.4	A	1.0	30	73	1.06	UDA10-65AC	\$5,940.00
12	45.1	45.6	46.0	A	0.8	30	75	1.06	UDA12-65AC	\$8,094.00
15	47.0	47.5	47.9	A	0.7	30	76	1.05	UDA15-65AC	\$12,296.00

**E. High Performance, 10.7-11.7 GHz, Single Polarization, CPR 90G Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4	40.1	40.5	40.9	A	1.6	30	61	1.08	DA4-107AC	\$1,536.00
6	43.7	44.0	44.5	A	1.0	30	70	1.06	DA6-107AC	\$2,820.00
8	46.1	46.4	46.9	A	0.8	30	71	1.06	DA8-107AC	\$3,498.00
10	48.0	48.4	48.6	A	0.7	30	70	1.06	DA10-107AC	\$4,440.00
12	49.4	49.8	50.0	A	0.5	30	70	1.05	DA12-107AC	\$6,020.00

**F. High Performance, 10.7-11.7 GHz, Dual Polarization, CPR 90G Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4	39.8	40.4	40.8	A	1.5	30	64	1.08	DAX4-107AC	\$1,794.00
6	43.5	43.8	44.3	A	1.0	30	68	1.06	DAX6-107AC	\$2,990.00
8	45.9	46.2	46.7	A	0.8	30	69	1.06	DAX8-107AC	\$3,684.00
10	47.8	48.2	48.4	A	0.7	30	70	1.06	DAX10-107AC	\$4,804.00
12	49.2	49.6	49.9	A	0.5	30	72	1.05	DAX12-107AC	\$6,468.00

**Radio Frequency System – Phase II****G. High Performance, 10.7-11.7 GHz, Dual Polarization, Super High Cross Polarization CPR 90G Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	RFS P/N	PRICE EACH
4	40.0	40.4	40.3	A	1.5	40	70	UXA4-107AC	\$2,408.00
6	43.5	43.8	44.3	A	1.1	40	73	UXA6-107AC	\$3,900.00
8	45.9	46.2	46.7	A	0.8	40	75	UXA8-107AC	\$4,900.00
10	47.8	48.2	48.4	A	0.7	40	77	UXA10-107AC	\$5,940.00
12	49.2	49.6	49.9	A	0.5	40	78	UXA12-107AC	\$8,094.00

**H. Ultra High Performance, 10.7-11.7 GHz Dual Polarization, CPR90G**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	RFS P/N	PRICE EACH
4	40.0	40.4	40.8	A	1.5	40	70	UXA4-107AC	\$2,408.00
6	43.5	43.8	44.3	A	1.1	40	73	UXA6-107AC	\$3,900.00
8	45.9	46.2	46.7	A	0.8	30	75	UDA8-107AC	\$4,900.00
10	47.8	48.2	48.4	A	0.7	30	77	UDA10-107AC	\$5,940.00
12	49.2	49.6	49.9	A	0.5	30	78	UDA12-107AC	\$8,094.00

**I. High Performance, 17.7-19.7 GHz, Singal Polarization, UG595/U Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	RFS P/N	PRICE EACH
8	49.9	50.3	50.8	A	0.45	30	74	DA8-190AZ	\$3,498.00

**J. High Performance, 17.7-19.7 GHz, Super, Dual Polarization, UG595/U Input Flange**

Diameter in Feet	Gain-DB Bottom	Gain-DB Mid Band	Gain-DB Top	FCC Category	Beam Width °s	Cross Pol Disc. DB	F/B Ratio DB	RFS P/N	PRICE EACH
1	32.7	33.3	33.8	-	3.4	30	55	SBX1-190AZ	\$379.20
2	37.8	38.3	38.7	A	1.9	36	66	UXA2-190BZ	\$1,910.00
4	44.0	44.5	44.9	A	1.0	36	72	UXA4-190BZ	\$2,408.00
6	47.5	48.0	48.4	A	0.7	36	76	UXA6-190AZ	\$3,900.00

**Radio Frequency System – Phase II****Radomes PRICING**

Radome Type	Diameter in Feet	Attenuation 2 GHz	Attenuation 6 GHz	Attenuation 11 GHz	Attenuation 18 GHz	RFS P/N	PRICE EACH
Standard	2.0	0.10 dB	0.30dB	.9dB	2.0db	<b>RANDOME_2</b>	<b>\$184.80</b>
Standard	4.0	0.10 dB	0.30dB	1.0dB	2.0db	<b>RANDOME_4</b>	<b>\$285.60</b>
Standard	6.0	0.10 dB	0.40dB	1.0dB	2.1db	<b>RANDOME_6</b>	<b>\$393.60</b>
Standard	8.0	0.10 dB	0.50dB	1.1dB	--	<b>RANDOME_8</b>	<b>\$621.60</b>
Standard	10.0	0.20dB	0.80dB	1.5dB	--	<b>RANDOME_10</b>	<b>\$912.00</b>

**Transmission Line PRICING**

Transmission line or COAXIAL cable will be will be available according to the sizes listed below:

SIZE	DESCRIPTION	PRICE per foot
1/2"	Diameter Foam Dielectric Coaxial Cable	<b>\$ .93</b>
7/8"	Diameter Foam Dielectric Coaxial Cable	<b>\$2.13</b>
1-1/4"	Diameter Foam Dielectric Coaxial Cable	<b>\$4.14</b>
7/8"	Diameter Air Dielectric Coaxial Cable	<b>\$3.20</b>
1-5/8"	Diameter Foam Dielectric Coaxial Cable	<b>\$5.28</b>
1/4"	Diameter Super Flexible Foam Dielectric Coaxial Cable	<b>\$ .61</b>
1/2"	Diameter Super Flexible Foam Dielectric Coaxial Cable	<b>\$1.36</b>

**Elliptical and Rigid waveguide will be supplied according to the sizes and/or frequency band listed below:**

TYPE	RANGE	PRICE per foot
Elliptical Waveguide for	5.925 – 7.125 GHz <b>E65</b>	<b>\$6.01</b>
Rigid Waveguide for	5.925 – 7.125 GHz	<b>\$N/A</b>
Elliptical Waveguide for	10.70 – 11.70 GHz <b>E105</b>	<b>\$5.42</b>
Rigid Waveguide for	10.7 – 11.70 GHz	<b>\$N/A</b>
Elliptical Waveguide for	17.70 – 19.70 GHz <b>E185</b>	<b>\$3.89</b>
Rigid Waveguide for	17.70 – 19.70 GHz	<b>\$N/A</b>
Elliptical Waveguide for	21.20 – 23.60 GHz <b>E220</b>	<b>\$3.50</b>
Rigid Waveguide for	21.20 – 23.60 GHz	<b>\$N/A</b>



**Radio Frequency System – Phase II****Connectors PRICING****Connectors for Foam**

<b>½” Connector</b>	<b>Price Each</b>	<b>7/8” Connector</b>	<b>Price Each</b>	<b>1-¼” Connector</b>	<b>Price Each</b>	<b>1-5/8 Connector</b>	<b>Price Each</b>	<b>¼” Super Flexible Connector</b>	<b>Price Each</b>	<b>½” Super Flexible Connector</b>	<b>Price Each</b>
“N” Male	<b>\$14.46</b>	“N” Male	<b>\$18.94</b>	“N” Male	<b>\$58.98</b>	“N” Male	<b>\$83.34</b>	“N” Male	<b>\$15.75</b>	“N” Male	<b>\$14.67</b>
“N” Female	<b>\$14.46</b>	“N” Female	<b>\$18.94</b>	“N” Female	<b>\$58.98</b>	“N” Female	<b>\$83.34</b>	“N” Female	<b>\$10.82</b>	“N” Female	<b>\$12.78</b>
UHF Male	<b>\$18.20</b>	UHF Male	<b>\$25.90</b>	UHF Male	<b>N/A</b>	UHF Male	<b>N/A</b>	UHF Male	<b>\$20.41</b>	UHF Male	<b>\$14.63</b>
UHF Female	<b>\$18.20</b>	UHF Female	<b>\$25.90</b>	UHF Female	<b>NA/</b>	UHF Female	<b>NA/</b>	DIN Male	<b>\$17.15</b>	DIN Male	<b>\$14.67</b>
7/16 DIN Male	<b>\$14.46</b>	7/16 DIN Male	<b>\$18.94</b>	7/16 DIN Male	<b>\$58.98</b>	7/16 DIN Male	<b>\$83.34</b>	DIN Female	<b>\$20.48</b>	DIN Female	<b>\$14.67</b>
7/16 DIN Female	<b>\$14.46</b>	7/16 DIN Female	<b>\$18.94</b>	7/16 DIN Female	<b>\$58.98</b>	7/16 DIN Female	<b>\$83.34</b>	DIN Male Right Angle	<b>N/A</b>	DIN Male Right Angle	<b>\$20.79</b>
7/8” EIA	<b>\$41.02</b>	7/8” EIA	<b>\$42.42</b>	7/8” EIA	<b>\$84.70</b>	7/8” EIA	<b>\$121.28</b>				

**7/8” Connectors for Air Dielectric**

<b>TYPE</b>	<b>PRICE EACH</b>
“N” Male <b>738247</b>	<b>\$43.75</b>
“N” Female <b>738226</b>	<b>\$41.65</b>
7/8” EIA Flange <b>738229 (GB) OR 738230 (GB)</b>	<b>\$68.25 (GB) \$ 46.20 (GP)</b>

**Connectors for Waveguide**

<b>DESCRIPTION</b>	<b>RFS P/N</b>	<b>PRICE EACH</b>
EWP 63, Tunable, CPR and EW 63, Standard, CPR 137G	<b>C137-065TG Tunable</b> <b>C137-065FG Standard</b>	<b>\$112.00</b> <b>\$99.75</b>
EWP 90, Tunable, CPR and EW 90, Standard, CPR 90G	<b>C90-105TG Tunable</b> <b>C90-105FG Standard</b>	<b>\$119.00</b> <b>\$108.50</b>
EWP 180, Tunable, UG595/U and EW 180, Standard, UG595/U	<b>G595-185TG Tunable</b>	<b>\$120.75</b>
EW 220, Fixed Tuned	<b>B220-220FP PBR FLANGE</b> <b>PLAST 2000 SEAL</b>	<b>\$87.50</b>

**Radio Frequency System – Phase II  
Dehydrators**

Flow Rate	Pressure	Dew	Recom.	Type	Voltage	Power	Alarms	RFS P/N	Price
SCFM	PSIG	Point	Volume ft <sup>3</sup>						
0.9	3-8	-33	0-10	D	115 VAC	230	none	SPD-10	<b>\$553.90</b>
0.05	5	-50	0-20	M	115 Vac	184	LP	APD-20	<b>\$1,046.90</b>
0.05	5	-50	0-20	M	115 Vac	184	Full	APD-20W/ALARMS*	<b>\$2,162.38</b>
0.2	5	-50	0.01-60	M	115/230 Vac	350/390	LP	APD-22	<b>\$1,191.90</b>
0.2	5	-50	0.01-60	M	115 Vac	350-550	LP	APD-20	<b>\$1,046.90</b>
0.2	5	-50	0.01-60	M	115 Vac	350-550	LP	APD-20	<b>\$1,046.90</b>
0.3	3-8	-50	2-80	M	115 Vac	390	LP	APD-20	<b>\$1,046.90</b>
0.3	3-8	-50	2-80	M	115 Vac	390	LP	APD-20	<b>\$1,046.90</b>
0.3	3-8	-50	2-80	M	115 Vac	390	Full	APD-20 W/ALARMS*	<b>\$2,162.38</b>
0.3	3-8	-50	2-80	M	115	390	Full	APD-20 W/ALARMS*	<b>\$2,162.38</b>

\*Run Time Alarm Kit is P/N 914976

\*Pressure &amp; Humidity Alarm is P/N 920717-001

**Radio Frequency System – Phase II**  
**Spread Spectrum**

**A. Welded Grid Antenna, 2300-2500 MHz “Spread Spectrum” Type “N” Female Input connector or 7/8” EIA Flange**

Diameter in Feet	Gain – DB Bottom	Gain – DB Mid Band	Gain – DB Top	Beamwidth Degrees	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4.0	26.8	27.0	27.2	7.0	32	1.35	MGAR4-23N	\$522.50
6.0	29.6	30.1	30.4	4.5	38	1.35	MGAR6-23N	\$940.50
8.0	32.0	32.4	32.8	3.4	41	1.35	GKLR8-23N	\$1,441.00
10.0	33.9	34.3	34.6	2.7	45	1.35	GKLR10-12N	\$1,881.00
12.0	36.0	36.4	36.7	2.6	47	1.35	GKAR12-23N	\$2,992.00
15.0	38.1	38.6	39.1	1.9	48	1.35	NO BID	\$

**B. Solid Parabolic Reflector Standard Antenna, 2290-2450 MHz, “Spread Spectrum” Type “N” Female Input Connector or 7/8” EIA Flange.**

Diameter in Feet	Gain – DB Bottom	Gain – DB Mid Band	Gain – DB Top	Beamwidth h Degrees	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
4.0	26.7	27.1	27.3	6.9	25	36	1.3	SPF4-23AJ	\$720.00
6.0	30.2	30.6	30.9	4.6	25	39	1.1	SPF6-23AJ	\$852.00
8.0	32.9	33.3	33.3	3.5	30	40	1.1	PAF8-23AE	\$1,430.40
10.0	34.9	35.2	35.3	2.8	30	43	1.1	PAF10-23AE	\$2,112.00
12.0	36.5	36.8	37.2	2.3	30	45	1.1	PAF12-23AE	\$3,686.40

**C. Solid Parabolic Reflector Standard Antenna, 5725-5850 MHz, “Spread Spectrum” CPR 137G Flange**

Diameter in Feet	Gain – DB Bottom	Gain – DB Mid Band	Gain – DB Top	Beamwidth h Degrees	Cross Pol Disc. DB	F/B Ratio DB	VSWR	RFS P/N	PRICE EACH
2.0	27.4	27.9	28.4	6.2	25	34	1.5	SPF2-52AN	\$408.00
3.0	30.9	31.4	31.9	4.2	25	38	1.5	SPF3-52AN	\$669.60
4.0	33.4	33.9	34.4	3.1	28	40	1.5	SPF4-52AN	\$739.20
6.0	37.0	37.4	37.9	2.1	30	44	1.5	SPF6-52AN	\$936.00

**Radio Frequency System – Phase II****Accessory price discount off manufacturer price list**

Discount off Manufacturer Price List: See Below for rate

**RADIO FREQUENCY SYSTEMS, INC.****PURCHASE DISCOUNTS  
FOR  
STATE OF WASHINGTON  
AND OTHER WSCA STATES****Phase I**

High Performance Microwave Antennas	60%
Standard Performance Microwave Antennas	52%
Grid Microwave Antennas	45%
Flexwell® Elliptical Waveguide	65%
Flexwell® Elliptical Waveguide Connectors	65%
Flexwell® Elliptical Waveguide Accessories	65%
CELLFLEX® LCF Foam Dielectric Coaxial Cables	65%
CELLFLEX® LCF Coaxial Cable Connectors	65%
CELLFLEX® Installation Accessories	65%
Flexwell® Air Dielectric Coaxial Cables	60%
Pressurization Equipment	42%

**Note: All pricing is FOB Destination with full standard surface freight allowed.**

Per Section 32.a. of the RFP, Radio Frequency Systems is also offering a contractual project discount of three percent (3%) off the total value for any single purchase order or combination of purchase orders over \$100,000, submitted at one time by a purchasing entity, or multiple entities, conducting a cooperative purchase for delivery.

The above discounts shall be applied to the prices listed in the most current Radio Frequency Systems published price list and are subject to annual review.

**7/24/03**

Price List Dated 2003 included with all binders.

**Radio Frequency System – Phase II**  
**RADIO FREQUENCY SYSTEMS, INC.**

**Volume Discount Program - Phase 1 and Phase 2 all categories**

The volume discount will be cumulative and over the term of the contract.

(Initial Term of Three [3] Years)

<b>Additional Discount off Net Contract Unit Price</b>	<b>Cumulative Total Sales from:</b>	<b>Cumulative Total Sales to:</b>
1.0%	\$ 5,000,000	\$ 9,999,999
2.5%	\$ 10,000,000	\$ 14,999,999
3.5%	\$ 15,000,000	\$ 19,999,999
5.0%	\$ 20,000,000	\$ 29,999,999
6.0%	\$ 30,000,000	\$ 39,999,999
7.0%	\$ 40,000,000	\$ 49,999,999
7.5%	\$ 50,000,000	\$ 59,999,999
8.0%	\$ 60,000,000	\$ 69,999,999
8.5%	\$ 70,000,000	\$ 79,999,999
9.0%	\$ 80,000,000	\$ 89,999,999
9.5%	\$ 90,000,000	\$ 99,999,999
10.0%	\$100,000,000	\$ 100,000,000+

**Relm (King)****Contractor:** **RELM (King)****Contact:** Shari Sharp**Alternate Contact:** Roberta Gran**Phone:** 321-953-7952

321-953-7703

**Fax:** 321-676-4403

800-704-3177

**Email:** [ssharp@relm.com](mailto:ssharp@relm.com)[robgran@relm.com](mailto:robgran@relm.com)**Internet address:** [www.relm.com](http://www.relm.com)**Web catalog address:** [www.relm.com](http://www.relm.com)**Federal ID No.:** 59-3486297**Supplier No.:** 6391**Total Contract worth:****Payment address:** RELM Wireless Corporation  
Dept. AT 952187  
Atlanta, GA 31192-2187**Order placement address:** 7100 Technology Dr  
W Melbourne FL 32904**Customer Service:** Roberta Gran**Telephone:** 800-821-2900**Fax:** 800-704-3177**Ordering procedures:** Call 800-821-2900 (Order Entry @ RELM), E-mail [robgran@relm.com](mailto:robgran@relm.com) or Fax hard copy purchase order to 800-821-2900 All w/ contract #02702 referenced.**Credit card acceptance:** Visa, MasterCard, Discover & American Express**Minimum orders:** N/A**Delivery time:** 60 Days ARO**Payment terms:** 0% 30 Days**Shipping destination:** Free on Board (FOB) destination**Freight:** Prepaid and included**Palletization:** YES**Category****Equipment Line items****Link to Equipment Specifications** [www.relm.com](http://www.relm.com)**Link to Price Sheets****Awarded Phase(s)** Phase I

**Relm (King)**

<b>MFG REP</b>	<b>Dealer Name</b>	<b>City</b>	<b>State</b>	<b>Contact</b>	<b>Telephone</b>	<b>e-mail</b>
Alster/PM	Tom Ferri	Fairbanks	AK	Tom Ferri	907-457-1560	<a href="mailto:tomferri@mosquitonet.com">tomferri@mosquitonet.com</a>
RELM	Cherrington Communications	Phoenix	AZ	Mike Cherrington	623 780-8242	<a href="mailto:chercom@cox.net">chercom@cox.net</a>
PMG	Procomm	Phoenix	AZ	Randy Power	602 674-3000	<a href="mailto:rlpower@wedoradios.com">rlpower@wedoradios.com</a>
Sales Group	Nida Communications	La Cresenta	CA	Kevin Nida	818 957-1248	<a href="mailto:knida@knida.com">knida@knida.com</a>
Sales Group	49er Communications	Nevada City	CA	Holley Masch	530 265-3521	<a href="mailto:Hmasch@49ercom.com">Hmasch@49ercom.com</a>
Sales Group	Vincent Communications	Fresno	CA	Jim Vincent	559 292-7010	<a href="mailto:jvincent@vincentcom.com">jvincent@vincentcom.com</a>
Sales Group	Timberline Communications	Pioneer	CA	Warren Kocker	209 295-4940	<a href="mailto:timberline@volcano.net">timberline@volcano.net</a>
Sales Group	Silverado Avionics	Napa	CA	Bob Samo	707 255-5588	<a href="mailto:rsamo@silveradoavionics.com">rsamo@silveradoavionics.com</a>
Sales Group	Applied Technology	Bakersfield	CA	Steve Grove	661 322-8650	<a href="mailto:sgrove@atg1.com">sgrove@atg1.com</a>
PMG	Two Way Comm., Inc.	Grand Junction	CO	Denny Eschlmann	970 243-9823	<a href="mailto:tcij@aol">tcij@aol</a>
Alster/TK	Intermountain Communications	Mountain Home	ID	Jeff Berger	208-587-7122	<a href="mailto:jeff.berger@att.net">jeff.berger@att.net</a>
Alster/SS	Bridger Communications	Bozeman	MT	Jeff Tong	406 587-5080	<a href="mailto:brcomm@imt.net">brcomm@imt.net</a>
Alster/SS	Stine Electronics	Seeley Lake	MT	Bob Stine	406 677-2148	<a href="mailto:slk2948@blackfoot.net">slk2948@blackfoot.net</a>
Alster/SS	Comm Shop	Kalipell	MT	Tom Witham	406 756-6938	<a href="mailto:commshop@centurytel.net">commshop@centurytel.net</a>
Alster/SS	Vancomm Ent. LLC	Great Falls	MT	Bob VanLuchene	406 727-2085	<a href="mailto:bobv@fgn.net">bobv@fgn.net</a>
PMG	Advanced Comm. & Elect.	Albuq.	NM	Tom Whaley	505 244-3321	<a href="mailto:twhaley@advtwo-way.com">twhaley@advtwo-way.com</a>
Sales Group	Lambda Communications	Winnemucca.	NV	Sheila Crawford-Bunch	775 623-0202	<a href="mailto:sbunch@lambdacom.com">sbunch@lambdacom.com</a>
Alster/TK	Slater Communications	Salem	OR	Stu Slater	503-399-7010	<a href="mailto:sce@wvi.com">sce@wvi.com</a>
Alster/TK	MyComm	Eugene	OR	Craig Myers	541-686-1873	<a href="mailto:mycomminc@aol.com">mycomminc@aol.com</a>
Alster/TK	Mike's Two-Way	Milton-Freewater	OR	Mike Greer	541-938-5183	<a href="mailto:mgreer@bmi.net">mgreer@bmi.net</a>
Alster/TK	Cascade Telecom	Klamath Falls	OR	Roger Brown	541-883-3322	<a href="mailto:ctel@cascadetele.com">ctel@cascadetele.com</a>
Alster/TK	Day Wireless	Milwaukie	OR	Steve Shelton	503-659-1240	<a href="mailto:sshelton@daywireless.com">sshelton@daywireless.com</a>
PMG	Dwyer Comm	Murray	UT	Wayne Dwyer	801 263-8758	<a href="mailto:wayne@dwyerscommunications.com">wayne@dwyerscommunications.com</a>
Alster/KT	Action Communications	Everett	WA	Perry Wheeler	425-486-9121	<a href="mailto:actcominc@mindspring.com">actcominc@mindspring.com</a>
Alster/KT	Sine Communications	Tacoma	WA	Reggie Hesse	253-475-9430	<a href="mailto:rdhesse@earthlink.net">rdhesse@earthlink.net</a>
Alster/KT	Wiztronics	Bellingham	WA	Bob Baker	360-733-5560	<a href="mailto:rpbaker@unidial.com">rpbaker@unidial.com</a>
Alster/TP	Advanced Paging	Spokane	WA	Del Blaine	509-456-5102	<a href="mailto:delblaine@brandxwireless.com">delblaine@brandxwireless.com</a>
Alster/TP	Quality Mobile	Vanouver	WA	Nick Raurk	360-254-9505	<a href="mailto:nbruark@qualitymobile.com">nbruark@qualitymobile.com</a>
<b>Manufactures Representatives:</b>		<b>Alster Communications</b>			<b>800 365-1272</b>	
		<b>Progress Marketing Group</b>			<b>800 368-8165</b>	
		<b>The Sales Group, Inc.</b>			<b>888-801-7253</b>	

## Price Sheet

Req. Item	Comm. Code	Description	Qty	Unit	Percentage off Mfg List Price
1.		Base Station	1-4 5-10 11+	EA EA EA	34% 34% 34%
2.		Repeater	1-4 5-10 11+	EA EA EA	34% 34% 34%
3.		Portable Radio	1-49 50+	EA EA	34% 34%
4.		Mobile Radio	1-20 21-100 101+	EA EA EA	34% 34% 34%
5.		Desktop	1-20 21-100 101+	EA EA EA	34% 34% 34%
6.		Console Unit	1-9 10+	EA EA	NA
7.		Support Services	1	HR	NA
8.		Installation Services	1	HR	NA
9.		Repair Services	FLAT RATE	EA	\$145.00 GPH/DPH & GMH Flat Rate
10.		Accessories		EA	34%
11.		List other Equipment		EA	34%



**Sinclair Technologies****Contractor:** [Sinclair Technologies](#)**Contact:** [Arlene Gerfin](#)**Alternate Contact:** [Cyndi Fischer](#)**Phone:** 716 874-3682 ext 336

310 796 1336

**Fax:** 716 874 4007

310 796 0636

**Email:** [agerfin@sinctech.com](mailto:agerfin@sinctech.com)[cfischer@sinctech.com](mailto:cfischer@sinctech.com)**Internet address:** [www.sinctech.com](http://www.sinctech.com)**Web catalog address:****Federal ID No.:** 16-0845791**Supplier No.:** 30589-1**Total Contract worth:** \$500,000,000.00**Payment address:** Sinclair Technologies  
55 Oriskany Dr  
Tonawanda, NY 14150**Order placement address:** Sinclair Technologies  
55 Oriskany Dr  
Tonawanda, NY 14150**Customer Service:** Arlene Gerfin**Telephone:** 716-874-3682 x243**Fax:** 716-874-8736**Ordering procedures:****Credit card acceptance:** (NONE SPECIFIED, BUT ANSWERED YES THEY ACCEPT THEM)**Minimum orders:****Delivery time:** 30 days After Receipt of Order (ARO)**Payment terms:** 1% 30 days**Shipping destination:** Freight on Board (FOB) destination**Freight:** Prepaid and included**Palletization:** N/A**Category****Equipment Line items****Link to bid Specifications****Link to Price Sheets****Awarded Phase(s)** Phase I

**Sinclair Technologies – Phase I**

<b>Req. Item</b>	<b>Comm. Code</b>	<b>Description</b>	<b>Qty</b>	<b>Unit</b>	<b>Percentage off Mfg List Price</b>
1.		Support Services	Hourly	EA	\$
2.		Installation Services	Hourly	EA	\$
3.		Repair Services	Hourly	EA	\$
4.		Accessories		EA	
5.		List other Equipment			
6.		Cavity Ferrite Tx Combiners Brand/Model: CT & TJ Series (Catalog pg. 52-53)		EA	35%
7.		Excaliber Mobile Antennas Mfg.: Sinclair Technologies Inc. Brand/Model: Excal Series (Catalog pg. 43-45)		EA	35%
8.		Cavity Filters Mfg.: Sinclair Technologies Inc. Brand/Model: FP/FR/FQ Series (Catalog pg. 100-104)		EA	35%
9.		Isolators Mfg.: Sinclair Technologies Inc. Brand/Model: I Series (Catalog pg. 68-69)			35%
10.		Mobile Duplexers Mfg.: Sinclair Technologies Inc. Brand/Model: MR Series (Catalog pg. 96-99)			35%
11.		Band Pass Duplexer Mfg.: Sinclair Technologies Inc. Brand/Model: P Series (Catalog pg. 86)		EA	<u>35%</u>
12.		IM Suppression Panels Mfg.: Sinclair Technologies Inc. Brand/Model: PC Series (Catalog pg. 67)		EA	<u>35%</u>
13.		Preselectors Mfg.: Sinclair Technologies Inc. Brand/Model: FP & PH Series (Catalog pg. 82-83)		EA	<u>35%</u>

**Sinclair Technologies – Phase I**

<b>Req. Item</b>	<b>Comm. Code</b>	<b>Description</b>	<b>Qty</b>	<b>Unit</b>	<b>Percentage off Mfg List Price</b>
14.		Q-Circuit Base Station Duplexers Mfg.: Sinclair Technologies Inc. Brand/Model: Q-201G / Q-202G Series (Catalog pg. 89-90)		EA	<u>35%</u>
15.		Res-Lok 'Q' Series Duplexers Mfg.: Sinclair Technologies Inc. Brand/Model: Q Series (Catalog pg. 91-95)		EA	<u>35%</u>
16.		Receiver Multicouplers Mfg.: Sinclair Technologies Inc. Brand/Model: RM Series (Catalog pg. 73-76)		EA	<u>35%</u>
17.		Exposed Dipole Array Antennas Mfg.: Sinclair Technologies Inc. Brand/Model: SRL- 110 / 210 / 222 / 224 / 235 / 310 / 335 Series (Catalog pg. 7, 9-12, 17-19)		EA	<u>35%</u>
18.		VHF Corner Reflector Mfg.: Sinclair Technologies Inc. Brand/Model: SRL-227 (Catalog pg. 40)		EA	<u>35%</u>
19.		Omnidirectional Antennas Mfg.: Sinclair Technologies Inc. Brand/Model: SRL-238 (Catalog pg. 8)		EA	<u>35%</u>
20.		Yagi Antennas Mfg.: Sinclair Technologies Inc. Brand/Model: SRL-206 / SRL-212 / SRL-307 / SRL-406 (Catalog pg. 36, 37, 39)		EA	<u>35%</u>
21.		Cellular/Trunking Exposed Dipole Array Antennas Mfg.: Sinclair Technologies Inc. Brand/Model: SRL-410 Series (Catalog pg. 21)		EA	<u>35%</u>
22.		Cellular/Trunking Omnidirectional Antennas Mfg.: Sinclair Technologies Inc. Brand/Model: SRL-420 / SRL-480 Series (Catalog pg. 30)		EA	<u>35%</u>

**Sinclair Technologies – Phase I**

<b>Req. Item</b>	<b>Comm. Code</b>	<b>Description</b>	<b>Qty</b>	<b>Unit</b>	<b>Percentage off Mfg List Price</b>
23.		Data Antennas Mfg.: Sinclair Technologies Inc. Brand/Model: SRL-441 Series (Catalog pg. 46-47)		EA	<u>35%</u>
24.		Transmitter Combiners Mfg.: Sinclair Technologies Inc. Brand/Model: TC Series (Catalog pg. 58-59)		EA	<u>35%</u>
25.		Fiberglass Collinear Antennas Mfg.: Sinclair Technologies Inc. Brand/Model: SRL-229 / SRL-320 (Catalog pg. 13, 16)		EA	<u>35%</u>
26.		Ground Plane Antennas Mfg.: Sinclair Technologies Inc. Brand/Model: SRL-101 / SRL-301 (Catalog pg. 5, 15)		EA	<u>35%</u>
27.		Harmonic Filters Mfg.: Sinclair Technologies Inc. Brand/Model: AF Series (Catalog pg. 72)		EA	<u>35%</u>
28.		Power Monitor/Alarm Systems Mfg.: Sinclair Technologies Inc. Brand/Model: AMV-6A (Catalog pg. 84)		EA	<u>35%</u>
29.		Clamps and Mounting Hardware Mfg.: Sinclair Technologies Inc. Brand/Model: Clamps (Catalog pg. 118-125)		EA	<u>35%</u>

**SmartLink Radio Networks****Contractor:** [SmartLink Radio Networks](#)**Page number****Contact:** Dawn S. Odams**Alternate Contact:** Glenn Schultz**Phone:** 978 262-3001

203-741-5603

**Fax:** 978 667-3235

203-269-2378

**Email:** [dodams@smartlink.net](mailto:dodams@smartlink.net)[gschultz@smartlink.net](mailto:gschultz@smartlink.net)**Internet address:** [www.smartlink.net](http://www.smartlink.net)**Web catalog address:****Federal ID No.:** 06-1700610**Supplier No.:** 111925**Total Contract worth:** \$500,000,000.00**Payment address:** SmartLink Radio  
Networks, Inc.  
1269 So. Broad Street  
Wallingford, CT 06492**Order placement  
address:** SmartLink Radio  
Networks, Inc.  
1269 So. Broad Street  
Wallingford, CT 06492**Customer Service:** Glenn Schultz**Telephone:** 203-741-5603**Fax:** 203-269-2378**Ordering procedures:****Credit card acceptance:** None**Minimum orders:****Delivery time:** 15 days After Receipt of Order (ARO)**Payment terms:** 0% 30 days**Shipping destination:** Freight on Board (FOB) destination**Freight:** Prepaid and included**Palletization:** N/A**Category****Equipment Line items** Category 4, IP Base Gateway Solution**Link to bid Specifications****Link to Price Sheets****Awarded Phase(s)** Phase I & II

**SmartLink Radio Networks – Phase II**

## Specification

## Category 4 IP Base Solution SmartLink

The purpose of this section is to purchase an IT Based solution that has interface adapters for a variety of communications devices and mediums (VHF/UHF radio, telephone or Satcom, HF radio, local operator, etc.). The switch shall consist of a control unit containing all audio and switching circuitry, medium interface connectors, controls and indicators. Accessory adapters for a variety of external communications devices and mediums shall be supported.

SmartLink flexibility and low cost aspects of this solution make it ideal for metropolitan scale internet protocol based solutions. See full list of specifications at: <http://www.ga.wa.gov/pca/bids/02702-Phase2-Category4.doc>

**SmartLink Radio Networks – Phase II****Price Sheet****3. Required Equipment Quantities****Table 0-1: Summary of Basic Equipment Quantities**

	<b>Typical Small System Quantities</b>	<b>Typical Medium System Quantities</b>
Interoperability Operation Center	1	1
System Management Console	1	1
Remote Management Console	See Footnote 1	See Footnote 1
PSTN Interface	6	0
Audio Interface Card	90	186
Audio Interface Chassis	18	34
Optional Dispatch Consoles	4	0
Remote Dispatch Facility (if required)		

1. A dedicated remote console is not required as any PC equipped with the appropriate software may provide remote access to for management or diagnostic purposes the ANP through a direct, dial-up or LAN connection.

**4. PRICING**

Bidders shall provide pricing information on the following price forms:

**4.1. Basic System Pricing (backbone)**

<b>Item</b>	<b>Qty</b>	<b>Equipment Description</b>	<b>Price Each</b>	<b>Price Extended</b>
<b>1</b>	Small	Interoperability Operations Center and Audio Interface Interoperability Solution Pricing		\$201,787
	Medium			\$547,165
<b>2a</b>	Small	System Management Equipment and Software		\$491,910
<b>b</b>	Medium			\$1,130,544
<b>3a</b>	Small	Installation		\$211,649
<b>b</b>	Medium			\$266,929
<b>4</b>	Lot	Training Including:		

**SmartLink Radio Networks – Phase II**

<b>Item</b>	<b>Qty</b>	<b>Equipment Description</b>	<b>Price Each</b>	<b>Price Extended</b>
	Small	Operator/User		\$1,250
	Medium			\$1,250
	Small	Technician		\$4,000
	Medium			\$4,000
	Small	Administrator		\$2,000
	Medium			\$2,000
	Small	Console		\$79,980
	Medium			\$19,995
<b>5</b>	Small	Documentation		\$14,000
	Medium			\$14,000
<b>6</b>	Small	Project Management		\$40,000
	Medium			\$40,000
<b>7</b>	Small	Project Engineering		\$16,000
	Medium			\$16,000
<b>8</b>	Small	(Optional) Software Services	Software maintenance will be assessed at 15 to 20% of the SmartLink site and channel license costs billed on an annual basic	
	Medium			
<b>9</b>	Small	(Optional) Maintenance (Basic System)		TBD
	Medium			TBD
<b>10</b>	Small	(Optional) Spare Parts (Basic System)	See section 4 of the bid submittals	
	Medium			
<b>11</b>	Small	(Optional) Test Equipment	See section 4 of the bid submittals	
	Medium			



**SmartLink Radio Networks – Phase II****4.2. Optional System Equipment Pricing**

<b>Item</b>	<b>Qty</b>	<b>Equipment Description</b>	<b>Price Each</b>	<b>Price Extended</b>
<b>1</b>	1	Optional Dispatch Equipment		\$19,995

<b>Grand Total for Small System</b>	<b><u>\$1,062,578</u></b>
<b>Grand Total for Medium System</b>	<b><u>\$2,041,883</u></b>

**Contractor:** **Tait North America, Inc.****Contact:** Jack Roche**Alternate Contact:** Duwan Cotton**Phone:** 949-858-7600

281-600-8270

**Fax:** 949-635-9086

281-829-3320

**Email:** [Jack.roche@taitmobile.com](mailto:Jack.roche@taitmobile.com)[duwan.cotton@taitmobile.com](mailto:duwan.cotton@taitmobile.com)**Internet address:** [www.taitworld.com](http://www.taitworld.com)**Web catalog address:** [www.taitworld.com](http://www.taitworld.com)**Catalog** <http://www.ga.wa.gov/pca/contract/02702-Tait-Radio-12052005.pdf>**Federal ID No.:** 74-2209324**Supplier No.:** 33221**Total Contract worth:****Payment and Legal** Controller: Tanya Pal  
**address:** 15740 Park Row, #450  
Houston TX 77084**Order** Operations Mgr  
**placement** 15740 Park Row, #450  
**address:** Houston TX 77084**Customer Service:** Logistic & order processing Dept**Telephone:** 281-829-3300**Fax:** 281-829-3320**Ordering procedures:****Credit card acceptance:** Visa, MasterCard**Minimum orders:** None**Delivery time:** 30 Days ARO**Payment terms:****Shipping destination:** Free on Board (FOB) destination**Freight:** Prepaid and included**Palletization:****Category****Equipment Line items****Link to bid Specifications****Link to Price Sheets****Awarded Phase(s)** Phase I

Req. Item	Comm. Code	Description	Qty	Unit	Percentage off Mfg List Price
1.		Base Station TB800 II Series	1-4 5-10 11+	EA EA EA	25% 25% 25%
1a		Base Station TB8000	1-4 5-10 11+	EA EA EA	15% 17% 22%
2.		Repeater T800 II	1-4 5-10 11+	EA EA EA	25% 25% 25%
2a		Repeater TB8000	1-4 5-10 11+	EA EA EA	10% 12% 15%
3.		Portable Radio	1-49 50+	EA EA	25% 25%
4.		Mobile Radio	1-20 21-100 101+	EA EA EA	25% 25% 25%
5.		TB8100 Products	1	EA	25%
6.		Support Services (excluding travel & accommodation) Training costs per student per hour During office hours Outside office hours	 1 1 1	 HR HR HR	 \$85.00 \$85.00 \$150.00
7.		Repair Services During office hours Outside office hours	 1 1	 HR HR	 \$85.00 \$150.00
8.		Accessories All accessories Items for radio in Tait North America Inc WSCA price book	1	EA	20%
9.		List other Equipment All other items in the Tait North America Inc WSCA price book, except equipment for items above	1	EA	20%

**Valmont****CONTRACTOR INFORMATION**

<b>Contractor:</b>	<b>Valmont</b>		
<b>Page number</b>	<a href="http://www.ga.wa.gov/pca/bids/02702-Phase2-Category6.doc">http://www.ga.wa.gov/pca/bids/02702-Phase2-Category6.doc</a>		
<b>Contact:</b>	Dennis Beal	<b>Alternate Contact:</b>	Sean Gallagher
<b>Phone:</b>	503-589-6671		503-589-6616
<b>Fax:</b>	503-589-6636		503-363-4613
<b>Email:</b>	<a href="mailto:Dennis.Beal@Valmont.com">Dennis.Beal@Valmont.com</a>		<a href="mailto:seang@valmont.com">seang@valmont.com</a>
<b>Alternate Contact:</b>	Ron Beyer		
<b>Phone:</b>	503-589-6673		
<b>Fax:</b>	503-363-4613		
<b>Email:</b>	<a href="mailto:ronb@valmont.com">ronb@valmont.com</a>		
<b>Internet address:</b>	<a href="http://www.valmont.com">http://www.valmont.com</a>		
<b>Web catalog address:</b>	<a href="http://www.valmont.com">http://www.valmont.com</a>		
<b>Tower Details</b>	<a href="http://www.ga.wa.gov/pca/contract/02702-Valmont-HeavyMicrowave-details-052005.xls">http://www.ga.wa.gov/pca/contract/02702-Valmont-HeavyMicrowave-details-052005.xls</a>		
<b>Bid Documents and Specifications</b>	<a href="http://www.ga.wa.gov/pca/contract/02702-Valmont-MicrowaveHeavyTowers-052005.doc">http://www.ga.wa.gov/pca/contract/02702-Valmont-MicrowaveHeavyTowers-052005.doc</a>		
<b>Federal ID No.:</b>	35-1990084		
<b>Supplier No.:</b>	W365		
<b>Total Contract worth:</b>	\$500,000,000.00		
<b>Payment address:</b>	Valmont Accounts Payable P.O. Box 128 Plymouth, IN 46563	<b>Order placement address:</b>	Valmont Industries 3575 25 <sup>th</sup> Street SE Salem, OR 97302
<b>Customer Service:</b>	Kathy Kalugin		
<b>Telephone:</b>	503-589-6658		
<b>Fax:</b>	503-363-4612		
<b>Ordering procedures:</b>	See the next pages		
<b>Credit card acceptance:</b>	Visa and Mastercard		
<b>Minimum orders:</b>	None		
<b>Delivery time:</b>	45 days After Receipt of Order (ARO)		
<b>Payment terms:</b>	0% 30 days		
<b>Shipping destination:</b>	Freight on Board (FOB) destination		
<b>Freight:</b>	Prepaid and included		
<b>Palletization:</b>	N/A		
<b>Category</b>	Category 6 Communication Towers		
<b>Equipment Line items</b>			
<b>Link to bid Specifications</b>	<a href="http://www.ga.wa.gov/pca/bids/02702-Phase2-Category6.doc">http://www.ga.wa.gov/pca/bids/02702-Phase2-Category6.doc</a>		
<b>Link to Price Sheets</b>	<b>HEAVY MICOROWAVE 3-LEGGED TRIANGULAR HOLLOW LEG SELF SUPPORT TOWERS</b> Page 242 <b>HEAVY MICORWAVE 4 LEGGED HOLLOW ROUND SELF SUPPORT TOWERS</b> Page 245		
<b>Engineering Hourly Rate</b>	\$ 95.00 per hour		
<b>Frabication Hourly</b>	\$ 75.00 per hour		

**Valmont****Installation** \$ 85.00 per hour**Materials at cost + 15%****Awarded Phase(s)** Phase I & II**Category 6 Communication Towers****SPECIAL TERMS AND CONDITIONS****1. MATERIALS AND WORKMANSHIP**

The Contractor shall be required to furnish all materials, equipment and/or services necessary to perform contractual requirements. Materials and workmanship in the construction of equipment for this contract shall conform to all codes, regulations and requirements for such equipment, specifications contained herein, and the normal uses for which intended. Materials shall be manufactured in accordance with the best commercial practices and standards for this type of equipment. Materials used in the production of any tower must be new.

**2. WARRANTY(IES)**

All materials provided shall be guaranteed by the contractor against mechanical, electrical and workmanship defects. In the event defects become evident within the warranty period, the contractor shall furnish replacement parts and materials at no additional cost to the state. The warranty period shall commence with the date of the communications tower's acceptance and remain in effect for one (1) calendar year, except for expendable items.

The contractor shall provide, within the warranty period and at the bid price, the necessary parts, labor and transportation to maintain the equipment in sufficient state of repair to continue system performance in compliance with the specification contained herein. The contractor shall provide qualified personnel, replacement parts and material to service the equipment at the installed site location within eight (8) hours after the notification of equipment failure. Repairs must be complete within 48 hours.

This warranty period maintenance shall be on a working hour basis as follows: 24 hours per day, 7 days per week.

**Valmont****HEAVY MICROWAVE 3-LEGGED TRIANGULAR  
HOLLOW LEG SELF SUPPORT TOWERS**

Tower in 20 ft Section, top down	Mfg stock number	Tower Costs Material & Freight Only	Climbing Ladder & Anti-Climb Device Material & Labor	Obstruction Lighting System Medium Intensity Material & Labor	Soils Report Costs	Grounding of Tower Base & WG Ladder	Tower Installation Costs Labor Only	Standard Safety Climb Cable Device includes harness, sleeve + Top & Bottom Stops + Install Labor	Rose Safety Climb Rail Device includes sleeve + Top & Bottom Stops + Install Labor	Total \$
Line Item		\$	\$	\$	\$	\$	\$	\$	\$	\$0.00
1. 20 ft	V920-20	\$8,250.00	\$600.00	\$9,705.00	\$4,200.00	BY OTHERS	\$11,920.00	\$1,205.00	\$1,500.00	\$37,380.00
2. 40 ft	S920-40	\$9,472.00	\$1,240.00	\$9,705.00	\$4,200.00	BY OTHERS	\$12,080.00	\$1,445.00	\$1,975.00	\$40,117.00
3. 60 ft	S920-60	\$10,981.00	\$1,860.00	\$9,705.00	\$4,200.00	BY OTHERS	\$13,520.00	\$1,737.00	\$2,455.00	\$44,458.00
4. 80 ft	S920-80	\$13,211.00	\$2,480.00	\$9,705.00	\$4,200.00	BY OTHERS	\$16,760.00	\$1,977.00	\$2,855.00	\$51,188.00
5. 100 ft	S920-100	\$15,411.00	\$3,100.00	\$9,705.00	\$4,200.00	BY OTHERS	\$19,000.00	\$2,217.00	\$3,380.00	\$57,013.00
6. 120 ft	S920-120	\$19,930.00	\$3,720.00	\$9,855.00	\$4,200.00	BY OTHERS	\$22,340.00	\$2,510.00	\$3,860.00	\$66,415.00
7. 140 ft	S920-140	\$24,930.00	\$4,380.00	\$9,855.00	\$4,200.00	BY OTHERS	\$24,580.00	\$2,750.00	\$4,340.00	\$75,035.00
8. 160 ft	S920-160	\$29,879.00	\$4,960.00	\$12,735.00	\$4,200.00	BY OTHERS	\$26,820.00	\$3,042.00	\$4,735.00	\$86,371.00
9. 180 ft	S920-180	\$34,599.00	\$5,580.00	\$12,735.00	\$4,200.00	BY OTHERS	\$30,060.00	\$3,282.00	\$5,265.00	\$95,721.00
10. 200 ft	S920-200	\$40,689.00	\$6,200.00	\$12,735.00	\$4,200.00	BY OTHERS	\$32,300.00	\$3,522.00	\$5,740.00	\$105,386.00
11. 220 ft	S920-220	\$47,238.00	\$6,820.00	\$12,875.00	\$4,200.00	BY OTHERS	\$37,920.00	\$3,805.00	\$6,140.00	\$118,998.00
12. 240 ft	S920-240	\$55,388.00	\$7,440.00	\$12,875.00	\$4,200.00	BY OTHERS	\$40,160.00	\$4,045.00	\$6,620.00	\$130,728.00
13. 260 ft	S920-260	\$64,957.00	\$8,060.00	\$12,875.00	\$4,200.00	BY OTHERS	\$42,400.00	\$4,342.00	\$7,095.00	\$143,929.00
14. 280 ft	S920-280	\$75,688.00	\$8,680.00	\$12,875.00	\$4,200.00	BY OTHERS	\$47,520.00	\$4,582.00	\$7,580.00	\$161,125.00
15. 300 ft	S920-300	\$97,507.00	\$9,300.00	\$12,875.00	\$4,200.00	BY OTHERS	\$49,760.00	\$4,822.00	\$8,335.00	\$186,799.00
<b><u>TOTAL</u></b>										<b><u>\$1,400,663.00</u></b>

**Valmont****HEAVY MICORWAVE 4  
LEGGED HOLLOW ROUND  
SELF SUPPORT TOWERS**

Tower in 20 ft Section, top down  Line Item	Mfg stock number	Tower Costs Material & Freight Only	Climbing Ladder & Anti- Climb Device Material & Labor	Obstruction Lighting System Medium Intensity Material & Labor	Soils Report Costs	Grounding of Tower Base & WG Ladder	Tower Installation Costs Labor Only	Standard Safety Climb Cable Device includes harness, sleeve + Top & Bottom Stops + Install Labor	Rose Safety Climb Rail Device includes sleeve + Top & Bottom Stops + Install Labor	Total \$
		\$	\$	\$	\$	\$	\$	\$	\$	\$0.00
1. 20 ft	M820-20	\$12,880.00	\$600.00	\$9,705.00	\$4,200.00		\$12,648.00	\$1,205.00	\$1,500.00	\$42,738.00
2. 40 ft	M840-40	\$18,126.00	\$1,240.00	\$9,705.00	\$4,200.00		\$12,888.00	\$1,445.00	\$1,975.00	\$49,579.00
3. 60 ft	M840-60	\$26,022.00	\$1,860.00	\$9,705.00	\$4,200.00		\$14,536.00	\$1,737.00	\$2,455.00	\$60,515.00
4. 80 ft	M840-80	\$33,178.00	\$2,480.00	\$9,705.00	\$4,200.00		\$18,164.00	\$1,977.00	\$2,855.00	\$72,559.00
5. 100 ft	M840-100	\$39,874.00	\$3,100.00	\$9,705.00	\$4,200.00		\$20,692.00	\$2,217.00	\$3,380.00	\$83,168.00
6. 120 ft	M840-120	\$47,000.00	\$3,720.00	\$9,855.00	\$4,200.00		\$25,475.00	\$2,510.00	\$3,860.00	\$96,620.00
7. 140 ft	M840-140	\$57,056.00	\$4,380.00	\$9,855.00	\$4,200.00		\$28,147.00	\$2,750.00	\$4,340.00	\$110,728.00
8. 160 ft	M840-160	\$66,197.00	\$4,960.00	\$12,735.00	\$4,200.00		\$30,819.00	\$3,042.00	\$4,735.00	\$126,688.00
9. 180 ft	M840-180	\$76,623.00	\$5,580.00	\$12,735.00	\$4,200.00		\$34,641.00	\$3,282.00	\$5,265.00	\$142,326.00
10. 200 ft	M840-200	\$84,329.00	\$6,200.00	\$12,735.00	\$4,200.00		\$37,313.00	\$3,522.00	\$5,740.00	\$154,039.00
11. 220 ft	M840-220	\$95,030.00	\$6,820.00	\$12,875.00	\$4,200.00		\$45,856.00	\$3,805.00	\$6,140.00	\$174,726.00
12. 240 ft	M840-240	\$106,486.00	\$7,440.00	\$12,875.00	\$4,200.00		\$48,672.00	\$4,045.00	\$6,620.00	\$190,338.00
13. 260 ft	M840-260	\$126,157.00	\$8,060.00	\$12,875.00	\$4,200.00		\$51,488.00	\$4,342.00	\$7,095.00	\$214,217.00
14. 280 ft	M840-280	\$143,113.00	\$8,680.00	\$12,875.00	\$4,200.00		\$57,760.00	\$4,582.00	\$7,580.00	\$238,790.00
15. 300 ft	M840-300	\$158,949.00	\$9,300.00	\$12,875.00	\$4,200.00		\$60,576.00	\$4,822.00	\$8,335.00	\$259,057.00
<b><u>TOTAL</u></b>										<b><u>\$2,016,088.00</u></b>

**Vertex****Contractor:** **Vertex****Contact:** Jim Driscoll**Alternate Contact:** Scott Henderson**Phone:** 508-435-3905

714-827-7600

**Fax:** 508-435-0525

714-827-8100

**Email:** [j.driscoll@vxstdusa.com](mailto:j.driscoll@vxstdusa.com)[s.henderson@vxstdusa.com](mailto:s.henderson@vxstdusa.com)**Internet address:** <http://www.vxstd.com>**Product catalog address:** <http://www.ga.wa.gov/pca/contract/02702-Vertex-Radio-092804.pdf>**Federal ID No.:** 95-2815202**Supplier No.:** 1573**Total Contract worth:** \$500,000,000.00**Payment address:** Vertex Standard  
PO Box 31001-1624  
Pasadena, CA 91110-1624**Order placement address:** Vertex Standard  
10900 Walker Street  
Cypress, CA 90630**Customer Service:** Tofu Leiatauna**Telephone:** 800-283-7839**Fax:** 800-477-9237**Ordering procedures:** Contact Customer Service**Credit card acceptance:** Visa, MasterCard**Minimum orders:** None**Delivery time:** 30 days After Receipt of Order (ARO)**Payment terms:** Net 30 Days**Shipping destination:** Freight on Board (FOB) destination**Freight:** Prepaid and included**Palletization:** N/A**Category** Category 1, Radio Equipment**Equipment Line items****Link to bid Specifications****Link to Price Sheets****Awarded Phase(s)** Phase I



**Vertex**

Authorized Vertex Dealers:

Puget Sound Instrument Company  
2612 Pacific Hwy. East  
Tacoma WA. 98424

253-922-7890 main office  
253-922-2650 fax  
e-mail correspondence  
[kimw@psicompany.com](mailto:kimw@psicompany.com)

Washington State Tax ID # 600 057 410  
Federal Tax ID # 91 - 086 - 4073

Contact  
Mr. Kim Workman  
Government System Sales  
1-800-826-2907 toll free  
253-922-7890 xt 117 (office)  
253-606-1500 (cell)  
e-mail [kimw@psicompany.com](mailto:kimw@psicompany.com)

**Vertex – Phase I**

<b>Req. Item</b>	<b>Comm. Code</b>	<b>Description</b>	<b>Qty</b>	<b>Unit</b>	<b>Percentage off Mfg List Price</b>
1.		Base Station	1-4 5-10 11+	EA EA EA	28% 28% 28%
2.		Repeater	1-4 5-10 11+	EA EA EA	28% 28% 28%
3.		Portable Radio	1-49 50+	EA EA	28% 28%
4.		Mobile Radio	1-20 21-100 101+	EA EA EA	28% 28% 28%
5.		Desktop	1-20 21-100 101+	EA EA EA	28% 28% 28%
6.		Support Services	1	HR	\$75.00
7.		Installation Services	1	HR	\$75.00
8.		Repair Services	1	HR	\$75.00
9.		Accessories		EA	28%
10.		List other Equipment All products on our enclosed retail price list		EA	28%
11.		List other Equipment		EA	
12.		List other Equipment		EA	

**PERFORMANCE REPORT FOR  
PURCHASING & CONTRACT ADMINISTRATION**

**To OSP Customers:**

Please take a moment to let us know how our services have measured up to your expectations on this contract. Please copy this form locally as needed and forward to the Office of State Procurement Purchasing Manager. For any comments marked unacceptable, please explain in remarks block.

**Procurement services provided:**

	<b>Excellent</b>	<b>Good</b>	<b>Acceptable</b>	<b>Unacceptable</b>
Timeliness of contract actions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Professionalism and courtesy of staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Services provided met customer needs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Knowledge of procurement rules and regulations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Responsiveness/problem resolution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Timely and effective communications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Agency: \_\_\_\_\_ Prepared by: \_\_\_\_\_  
Contract No.: 02702 Title: \_\_\_\_\_  
Contract Title: \_\_\_\_\_ Date: \_\_\_\_\_  
Phone: \_\_\_\_\_

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**Send to:**

**Keith Armstrong  
Contract Consultant  
Office of State Procurement  
PO Box 41017  
Olympia, Washington 98504-1017**

**PERFORMANCE REPORT FOR  
CONTRACTOR PRODUCT/SERVICE**

Complete this form to report problems with suppliers or to report unsatisfactory product or services. You are also encouraged to report superior performance. Agency personnel should contact suppliers in an effort to resolve problems themselves prior to completion and submission of this report.

Contract number and title: WSCA Public Safety Communication Contract

Supplier's name: \_\_\_\_\_ Supplier's representative: \_\_\_\_\_

**PRODUCT/SERVICE**

- |   |  |
|---|--|
| <input type="checkbox"/> Contract item quality higher than required | <input type="checkbox"/> Damaged goods delivered                                   |
| <input type="checkbox"/> Contract item quality lower than required. | <input type="checkbox"/> Item delivered does not meet P.O./contract specifications |
| <input type="checkbox"/> Other:                                     |  |

**SUPPLIER/CONTRACTOR PERFORMANCE**

- |   |   |
|---|---|
| <input type="checkbox"/> Late delivery              | <input type="checkbox"/> Slow response to problems and problem resolution |
| <input type="checkbox"/> Incorrect invoice pricing. | <input type="checkbox"/> Superior performance                             |
| <input type="checkbox"/> Other:                     |   |

**CONTRACT PROVISIONS**

- |  |   |
|--|---|
| <input type="checkbox"/> Terms and conditions inadequate   | <input type="checkbox"/> Additional items or services are required. |
| <input type="checkbox"/> Specifications need to be revised | <input type="checkbox"/> Minimum order too high.                    |
| <input type="checkbox"/> Other:                            |   |

Briefly describe situation: \_\_\_\_\_

Agency Name:		Delivery Location:	
Prepared By:	Phone Number:	Date:	Supervisor:
Address:	Email:		

Send To:

**KEITH ARMSTRONG**  
**CONTRACT CONSULTANT**  
**OFFICE OF STATE PROCUREMENT**  
**PO BOX 41017**  
**OLYMPIA WA 98504-1017**